

# **East Anglia TWO Offshore Windfarm**

## **Appendix 26.19**

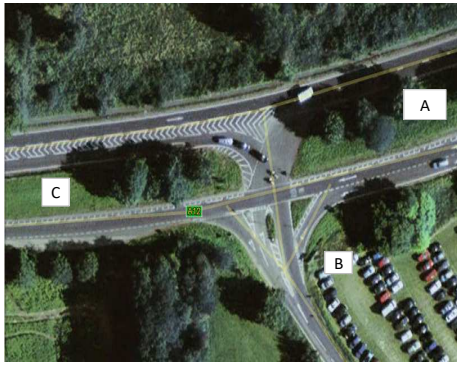
### **Junction Modelling Outputs and Turning Count Diagrams**

#### **Environmental Statement Volume 3**

Applicant: East Anglia TWO Limited  
Document Reference: 6.3.26.19  
SPR Reference: EA2-DWF-ENV-REP-IBR-000918\_019 Rev 01  
Pursuant to APFP Regulation: 5(2)(a)

Author: Royal HaskoningDHV  
Date: October 2019  
Revision: Version 1

# Junction 1 - A12 / A1094 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 2    | A   | A12 north |
| 6    | B   | A1094     |
| 3    | C   | A12 south |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

### AM Peak Traffic

Thursday 6th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 79  | 599 | 678    |
| B       | 40  | 0   | 237 | 277    |
| C       | 370 | 226 | 0   | 596    |
| Totals  | 410 | 305 | 836 | 1551   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 26 | 31     |
| B       | 2  | 0  | 8  | 10     |
| C       | 27 | 12 | 0  | 39     |
| Totals  | 29 | 17 | 34 | 80     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 625 | 709    |
| B       | 42  | 0   | 245 | 287    |
| C       | 397 | 238 | 0   | 635    |
| Totals  | 439 | 322 | 870 | 1631   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

### PM Peak Traffic

Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 449 | 511    |
| B       | 73  | 0   | 280 | 353    |
| C       | 568 | 280 | 0   | 848    |
| Totals  | 641 | 342 | 729 | 1712   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 14 | 14     |
| B       | 0  | 0 | 1  | 1      |
| C       | 11 | 3 | 0  | 14     |
| Totals  | 11 | 3 | 15 | 29     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 463 | 525    |
| B       | 73  | 0   | 281 | 354    |
| C       | 579 | 283 | 0   | 862    |
| Totals  | 652 | 345 | 744 | 1741   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 391 | 239 | 0   | 630    |
| Totals  | 434 | 323 | 884 | 1641   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 28 | 33     |
| B       | 2  | 0  | 8  | 11     |
| C       | 29 | 13 | 0  | 41     |
| Totals  | 31 | 18 | 36 | 85     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 89  | 661 | 750    |
| B       | 44  | 0   | 259 | 304    |
| C       | 420 | 252 | 0   | 672    |
| Totals  | 464 | 341 | 920 | 1725   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 475 | 541    |
| B       | 77  | 0   | 296 | 374    |
| C       | 601 | 296 | 0   | 898    |
| Totals  | 679 | 362 | 772 | 1813   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 15 | 15     |
| B       | 0  | 0 | 1  | 1      |
| C       | 12 | 3 | 0  | 15     |
| Totals  | 12 | 3 | 16 | 31     |

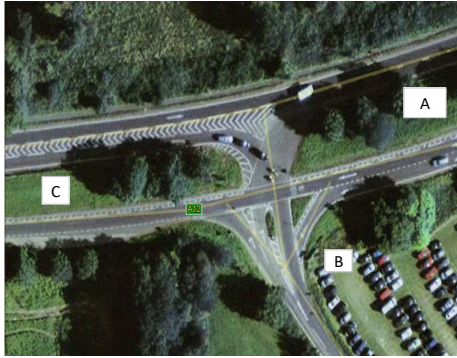
### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 490 | 556    |
| B       | 77  | 0   | 298 | 375    |
| C       | 613 | 300 | 0   | 913    |
| Totals  | 690 | 365 | 788 | 1843   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

# Junction 1 - A12 / A1094 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 2    | A   | A12 north |
| 6    | B   | A1094     |
| 3    | C   | A12 south |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## EA2 Construction Traffic (2023) - 100% HGV Origin from A12 north

### AM Peak Traffic

#### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 0  | 0 | 0      |
| B       | 0 | 0  | 0 | 0      |
| C       | 6 | 67 | 0 | 73     |
| Totals  | 6 | 67 | 0 | 73     |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 7 | 0 | 7      |
| B       | 7 | 0 | 0 | 7      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 7 | 7 | 0 | 13     |

#### Total

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 7  | 0 | 7      |
| B       | 7  | 0  | 0 | 7      |
| C       | 6  | 67 | 0 | 73     |
| Totals  | 13 | 74 | 0 | 87     |

#### %HGV

| From/To | A      | B      | C    | Average |
|---------|--------|--------|------|---------|
| A       | 0.0%   | 100.0% | 0.0% | 33%     |
| B       | 100.0% | 0.0%   | 0.0% | 33%     |
| C       | 0.0%   | 0.0%   | 0.0% | 0%      |
| Average | 33%    | 33%    | 0%   | 22%     |

### PM Peak Traffic

#### Vehicles

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 6  | 6      |
| B       | 0 | 0 | 67 | 67     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 73 | 73     |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 7 | 0 | 7      |
| B       | 7 | 0 | 0 | 7      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 7 | 7 | 0 | 13     |

#### Total

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 7 | 6  | 13     |
| B       | 7 | 0 | 67 | 74     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 7 | 7 | 73 | 87     |

#### %HGV

| From/To | A      | B      | C    | Average |
|---------|--------|--------|------|---------|
| A       | 0.0%   | 100.0% | 0.0% | 33%     |
| B       | 100.0% | 0.0%   | 0.0% | 33%     |
| C       | 0.0%   | 0.0%   | 0.0% | 0%      |
| Average | 33%    | 33%    | 0%   | 22%     |

## Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 north

### AM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 398 | 306 | 0   | 704    |
| Totals  | 440 | 390 | 884 | 1714   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 12 | 28 | 40     |
| B       | 9  | 0  | 8  | 17     |
| C       | 29 | 13 | 0  | 41     |
| Totals  | 37 | 25 | 36 | 98     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 96  | 661 | 757    |
| B       | 51  | 0   | 259 | 310    |
| C       | 426 | 319 | 0   | 745    |
| Totals  | 478 | 414 | 920 | 1812   |

#### %HGV

| From/To | A     | B     | C    | Average |
|---------|-------|-------|------|---------|
| A       | 0.0%  | 12.6% | 4.2% | 6%      |
| B       | 17.3% | 0.0%  | 3.3% | 7%      |
| C       | 6.7%  | 4.0%  | 0.0% | 4%      |
| Average | 8%    | 6%    | 2%   | 5%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 482 | 547    |
| B       | 77  | 0   | 363 | 441    |
| C       | 601 | 296 | 0   | 898    |
| Totals  | 679 | 362 | 845 | 1886   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 7  | 15 | 22     |
| B       | 7  | 0  | 1  | 8      |
| C       | 12 | 3  | 0  | 15     |
| Totals  | 18 | 10 | 16 | 44     |

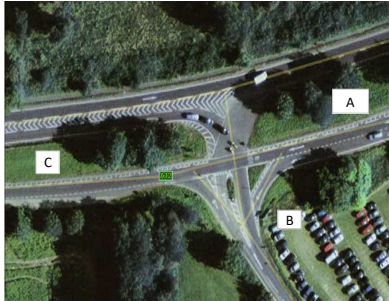
#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 72  | 497 | 569    |
| B       | 84  | 0   | 364 | 448    |
| C       | 613 | 300 | 0   | 913    |
| Totals  | 697 | 372 | 861 | 1930   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 9.3% | 3.0% | 4%      |
| B       | 8.0% | 0.0% | 0.3% | 3%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 3%   | 3%   | 1%   | 3%      |

# Junction 1 - A12 / A1094 Junction



## Notes

| Link | Arm | Road Name    |
|------|-----|--------------|
| 2    | A   | A12 north    |
| 6    | B   | Pasteur Road |
| 3    | C   | A12 south    |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 79  | 599 | 678    |
| B       | 40  | 0   | 237 | 277    |
| C       | 370 | 226 | 0   | 596    |
| Totals  | 410 | 305 | 836 | 1551   |

### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 26 | 31     |
| B       | 2  | 0  | 8  | 10     |
| C       | 27 | 12 | 0  | 39     |
| Totals  | 29 | 17 | 34 | 80     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 625 | 709    |
| B       | 42  | 0   | 245 | 287    |
| C       | 397 | 238 | 0   | 635    |
| Totals  | 439 | 322 | 870 | 1631   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 449 | 511    |
| B       | 73  | 0   | 280 | 353    |
| C       | 568 | 280 | 0   | 848    |
| Totals  | 641 | 342 | 729 | 1712   |

### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 14 | 14     |
| B       | 0  | 0 | 1  | 1      |
| C       | 11 | 3 | 0  | 14     |
| Totals  | 11 | 3 | 15 | 29     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 463 | 525    |
| B       | 73  | 0   | 281 | 354    |
| C       | 579 | 283 | 0   | 862    |
| Totals  | 652 | 345 | 744 | 1741   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 391 | 239 | 0   | 630    |
| Totals  | 434 | 323 | 884 | 1641   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 28 | 33     |
| B       | 2  | 0  | 8  | 11     |
| C       | 29 | 13 | 0  | 41     |
| Totals  | 31 | 18 | 36 | 85     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 89  | 661 | 750    |
| B       | 44  | 0   | 259 | 304    |
| C       | 420 | 252 | 0   | 672    |
| Totals  | 464 | 341 | 920 | 1725   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 475 | 541    |
| B       | 77  | 0   | 296 | 374    |
| C       | 601 | 296 | 0   | 898    |
| Totals  | 679 | 362 | 772 | 1813   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 15 | 15     |
| B       | 0  | 0 | 1  | 1      |
| C       | 12 | 3 | 0  | 15     |
| Totals  | 12 | 3 | 16 | 31     |

### Growth Factored Total

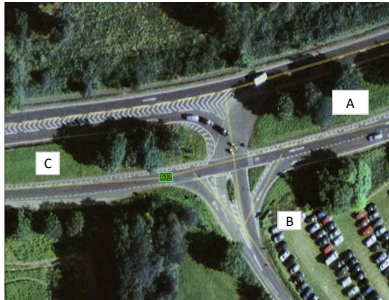
| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 490 | 556    |
| B       | 77  | 0   | 298 | 375    |
| C       | 613 | 300 | 0   | 913    |
| Totals  | 690 | 365 | 788 | 1843   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |



# Junction 1 - A12 / A1094 Junction



## Notes

| Link | Arm | Road Name    |
|------|-----|--------------|
| 2    | A   | A12 north    |
| 6    | B   | Pasteur Road |
| 3    | C   | A12 south    |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## EA2 Construction Traffic (2023) 100% HGV Origin from A12 South

### AM Peak Traffic

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 0  | 0 | 0      |
| B       | 0 | 0  | 0 | 0      |
| C       | 6 | 67 | 0 | 73     |
| Totals  | 6 | 67 | 0 | 73     |

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 3  | 3      |
| B       | 0 | 0 | 8  | 8      |
| C       | 3 | 8 | 0  | 11     |
| Totals  | 3 | 8 | 11 | 21     |

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 3  | 3      |
| B       | 0 | 0  | 8  | 8      |
| C       | 9 | 75 | 0  | 84     |
| Totals  | 9 | 75 | 11 | 94     |

| From/To | A     | B     | C      | Average |
|---------|-------|-------|--------|---------|
| A       | 0.0%  | 0.0%  | 100.0% | 33%     |
| B       | 0.0%  | 0.0%  | 100.0% | 33%     |
| C       | 30.3% | 10.3% | 0.0%   | 14%     |
| Average | 10%   | 3%    | 67%    | 27%     |

### PM Peak Traffic

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 6  | 6      |
| B       | 0 | 0 | 67 | 67     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 73 | 73     |

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 3  | 3      |
| B       | 0 | 0 | 8  | 8      |
| C       | 3 | 8 | 0  | 11     |
| Totals  | 3 | 8 | 11 | 21     |

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 9  | 9      |
| B       | 0 | 0 | 75 | 75     |
| C       | 3 | 8 | 0  | 11     |
| Totals  | 3 | 8 | 84 | 94     |

| From/To | A      | B      | C     | Average |
|---------|--------|--------|-------|---------|
| A       | 0.0%   | 0.0%   | 30.3% | 10%     |
| B       | 0.0%   | 0.0%   | 10.3% | 3%      |
| C       | 100.0% | 100.0% | 0.0%  | 67%     |
| Average | 33%    | 33%    | 14%   | 27%     |

## Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 South

### AM Peak Traffic

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 398 | 306 | 0   | 704    |
| Totals  | 440 | 390 | 884 | 1714   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 30 | 36     |
| B       | 2  | 0  | 16 | 18     |
| C       | 31 | 20 | 0  | 52     |
| Totals  | 33 | 26 | 46 | 106    |

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 89  | 664 | 753    |
| B       | 44  | 0   | 267 | 311    |
| C       | 429 | 326 | 0   | 756    |
| Totals  | 474 | 415 | 931 | 1820   |

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.6% | 4%      |
| B       | 4.8% | 0.0% | 6.1% | 4%      |
| C       | 7.3% | 6.3% | 0.0% | 5%      |
| Average | 4%   | 4%   | 4%   | 4%      |

### PM Peak Traffic

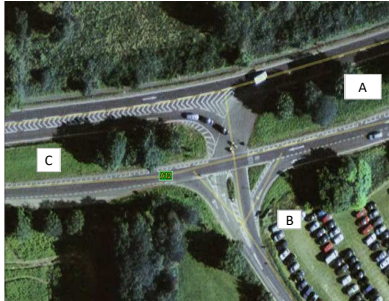
| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 482 | 547    |
| B       | 77  | 0   | 363 | 441    |
| C       | 601 | 296 | 0   | 898    |
| Totals  | 679 | 362 | 845 | 1886   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 0  | 18 | 18     |
| B       | 0  | 0  | 9  | 9      |
| C       | 14 | 11 | 0  | 25     |
| Totals  | 14 | 11 | 26 | 52     |

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 499 | 565    |
| B       | 77  | 0   | 372 | 449    |
| C       | 616 | 307 | 0   | 923    |
| Totals  | 693 | 373 | 872 | 1938   |

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.5% | 1%      |
| B       | 0.0% | 0.0% | 2.4% | 1%      |
| C       | 2.3% | 3.5% | 0.0% | 2%      |
| Average | 1%   | 1%   | 2%   | 1%      |

# Junction 1 - A12 / A1094 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 2    | A   | A12 east  |
| 6    | B   | A1094     |
| 3    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 79  | 599 | 678    |
| B       | 40  | 0   | 237 | 277    |
| C       | 370 | 226 | 0   | 596    |
| Totals  | 410 | 305 | 836 | 1551   |

### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 26 | 31     |
| B       | 2  | 0  | 8  | 10     |
| C       | 27 | 12 | 0  | 39     |
| Totals  | 29 | 17 | 34 | 80     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 625 | 709    |
| B       | 42  | 0   | 245 | 287    |
| C       | 397 | 238 | 0   | 635    |
| Totals  | 439 | 322 | 870 | 1631   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 449 | 511    |
| B       | 73  | 0   | 280 | 353    |
| C       | 568 | 280 | 0   | 848    |
| Totals  | 641 | 342 | 729 | 1712   |

### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 14 | 14     |
| B       | 0  | 0 | 1  | 1      |
| C       | 11 | 3 | 0  | 14     |
| Totals  | 11 | 3 | 15 | 29     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 463 | 525    |
| B       | 73  | 0   | 281 | 354    |
| C       | 579 | 283 | 0   | 862    |
| Totals  | 652 | 345 | 744 | 1741   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 391 | 239 | 0   | 630    |
| Totals  | 434 | 323 | 884 | 1641   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 28 | 33     |
| B       | 2  | 0  | 8  | 11     |
| C       | 29 | 13 | 0  | 41     |
| Totals  | 31 | 18 | 36 | 85     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 89  | 661 | 750    |
| B       | 44  | 0   | 259 | 304    |
| C       | 420 | 252 | 0   | 672    |
| Totals  | 464 | 341 | 920 | 1725   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 475 | 541    |
| B       | 77  | 0   | 296 | 374    |
| C       | 601 | 296 | 0   | 898    |
| Totals  | 679 | 362 | 772 | 1813   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 15 | 15     |
| B       | 0  | 0 | 1  | 1      |
| C       | 12 | 3 | 0  | 15     |
| Totals  | 12 | 3 | 16 | 31     |

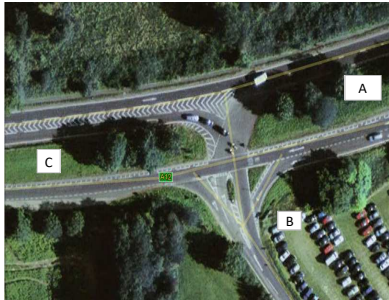
### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 490 | 556    |
| B       | 77  | 0   | 298 | 375    |
| C       | 613 | 300 | 0   | 913    |
| Totals  | 690 | 365 | 788 | 1843   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

# **Junction 1 - A12 / A1094 Junction**



## **Notes**

| Link | Arm | Road Name |
|------|-----|-----------|
| 2    | A   | A12 east  |
| 6    | B   | A1094     |
| 3    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## **EA2 + EA1N Construction Traffic (2023) - 100% HGV Origin from A12 north**

### **AM Peak Traffic**

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 0  | 0 | 0      |
| B       | 0 | 0  | 0 | 0      |
| C       | 6 | 84 | 0 | 91     |
| Totals  | 6 | 84 | 0 | 91     |

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 8 | 0 | 8      |
| B       | 8 | 0 | 0 | 8      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 8 | 8 | 0 | 17     |

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 8  | 0 | 8      |
| B       | 8  | 0  | 0 | 8      |
| C       | 6  | 84 | 0 | 91     |
| Totals  | 15 | 93 | 0 | 108    |

| From/To | A      | B      | C    | Average |
|---------|--------|--------|------|---------|
| A       | 0.0%   | 100.0% | 0.0% | 33%     |
| B       | 100.0% | 0.0%   | 0.0% | 33%     |
| C       | 0.0%   | 0.0%   | 0.0% | 0%      |
| Average | 33%    | 33%    | 0%   | 22%     |

### **PM Peak Traffic**

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 6  | 6      |
| B       | 0 | 0 | 84 | 84     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 91 | 91     |

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 8 | 0 | 8      |
| B       | 8 | 0 | 0 | 8      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 8 | 8 | 0 | 17     |

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 8 | 6  | 15     |
| B       | 8 | 0 | 84 | 93     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 8 | 8 | 91 | 108    |

| From/To | A      | B      | C    | Average |
|---------|--------|--------|------|---------|
| A       | 0.0%   | 100.0% | 0.0% | 33%     |
| B       | 100.0% | 0.0%   | 0.0% | 33%     |
| C       | 0.0%   | 0.0%   | 0.0% | 0%      |
| Average | 33%    | 33%    | 0%   | 22%     |

## **Forecast Flows + EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 north**

### **AM Peak Traffic**

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 398 | 324 | 0   | 722    |
| Totals  | 440 | 407 | 884 | 1732   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 14 | 28 | 41     |
| B       | 11 | 0  | 8  | 19     |
| C       | 29 | 13 | 0  | 41     |
| Totals  | 39 | 26 | 36 | 102    |

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 97  | 661 | 758    |
| B       | 53  | 0   | 259 | 312    |
| C       | 426 | 336 | 0   | 763    |
| Totals  | 479 | 434 | 920 | 1833   |

| From/To | A     | B     | C    | Average |
|---------|-------|-------|------|---------|
| A       | 0.0%  | 14.1% | 4.2% | 6%      |
| B       | 20.0% | 0.0%  | 3.3% | 8%      |
| C       | 6.7%  | 3.8%  | 0.0% | 3%      |
| Average | 9%    | 6%    | 2%   | 6%      |

### **PM Peak Traffic**

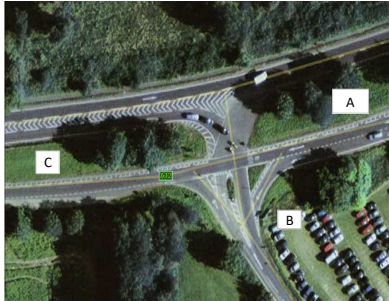
| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 482 | 547    |
| B       | 77  | 0   | 381 | 458    |
| C       | 601 | 296 | 0   | 898    |
| Totals  | 679 | 362 | 863 | 1904   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 8  | 15 | 23     |
| B       | 8  | 0  | 1  | 10     |
| C       | 12 | 3  | 0  | 15     |
| Totals  | 20 | 12 | 16 | 48     |

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 74  | 497 | 571    |
| B       | 86  | 0   | 382 | 468    |
| C       | 613 | 300 | 0   | 913    |
| Totals  | 699 | 374 | 879 | 1951   |

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 11.4% | 3.0% | 5%      |
| B       | 9.9% | 0.0%  | 0.3% | 3%      |
| C       | 1.9% | 1.1%  | 0.0% | 1%      |
| Average | 4%   | 4%    | 1%   | 3%      |

# Junction 1 - A12 / A1094 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 2    | A   | A12 east  |
| 6    | B   | A1094     |
| 3    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 79  | 599 | 678    |
| B       | 40  | 0   | 237 | 277    |
| C       | 370 | 226 | 0   | 596    |
| Totals  | 410 | 305 | 836 | 1551   |

### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 26 | 31     |
| B       | 2  | 0  | 8  | 10     |
| C       | 27 | 12 | 0  | 39     |
| Totals  | 29 | 17 | 34 | 80     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 625 | 709    |
| B       | 42  | 0   | 245 | 287    |
| C       | 397 | 238 | 0   | 635    |
| Totals  | 439 | 322 | 870 | 1631   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 449 | 511    |
| B       | 73  | 0   | 280 | 353    |
| C       | 568 | 280 | 0   | 848    |
| Totals  | 641 | 342 | 729 | 1712   |

### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 14 | 14     |
| B       | 0  | 0 | 1  | 1      |
| C       | 11 | 3 | 0  | 14     |
| Totals  | 11 | 3 | 15 | 29     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 62  | 463 | 525    |
| B       | 73  | 0   | 281 | 354    |
| C       | 579 | 283 | 0   | 862    |
| Totals  | 652 | 345 | 744 | 1741   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 391 | 239 | 0   | 630    |
| Totals  | 434 | 323 | 884 | 1641   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 28 | 33     |
| B       | 2  | 0  | 8  | 11     |
| C       | 29 | 13 | 0  | 41     |
| Totals  | 31 | 18 | 36 | 85     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 89  | 661 | 750    |
| B       | 44  | 0   | 259 | 304    |
| C       | 420 | 252 | 0   | 672    |
| Totals  | 464 | 341 | 920 | 1725   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.2% | 3%      |
| B       | 4.8% | 0.0% | 3.3% | 3%      |
| C       | 6.8% | 5.0% | 0.0% | 4%      |
| Average | 4%   | 4%   | 2%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 475 | 541    |
| B       | 77  | 0   | 296 | 374    |
| C       | 601 | 296 | 0   | 898    |
| Totals  | 679 | 362 | 772 | 1813   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 15 | 15     |
| B       | 0  | 0 | 1  | 1      |
| C       | 12 | 3 | 0  | 15     |
| Totals  | 12 | 3 | 16 | 31     |

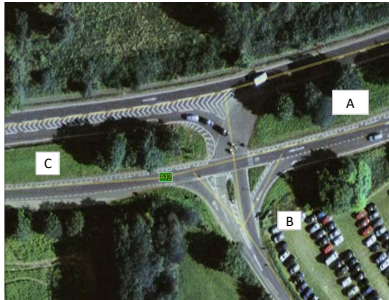
### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 490 | 556    |
| B       | 77  | 0   | 298 | 375    |
| C       | 613 | 300 | 0   | 913    |
| Totals  | 690 | 365 | 788 | 1843   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.0% | 1%      |
| B       | 0.0% | 0.0% | 0.4% | 0%      |
| C       | 1.9% | 1.1% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

# **Junction 1 - A12 / A1094 Junction**



## **Notes**

| Link | Arm | Road Name |
|------|-----|-----------|
| 2    | A   | A12 east  |
| 6    | B   | A1094     |
| 3    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## **EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

### **AM Peak Traffic**

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 0  | 0 | 0      |
| B       | 0 | 0  | 0 | 0      |
| C       | 6 | 84 | 0 | 91     |
| Totals  | 6 | 84 | 0 | 91     |

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 3  | 3      |
| B       | 0 | 0  | 10 | 10     |
| C       | 3 | 10 | 0  | 14     |
| Totals  | 3 | 10 | 14 | 27     |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 0  | 3  | 3      |
| B       | 0  | 0  | 10 | 10     |
| C       | 10 | 94 | 0  | 104    |
| Totals  | 10 | 94 | 14 | 118    |

| From/To | A     | B     | C      | Average |
|---------|-------|-------|--------|---------|
| A       | 0.0%  | 0.0%  | 100.0% | 33%     |
| B       | 0.0%  | 0.0%  | 100.0% | 33%     |
| C       | 35.1% | 10.6% | 0.0%   | 15%     |
| Average | 12%   | 4%    | 67%    | 27%     |

### **PM Peak Traffic**

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 6  | 6      |
| B       | 0 | 0 | 84 | 84     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 91 | 91     |

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 3  | 3      |
| B       | 0 | 0  | 10 | 10     |
| C       | 3 | 10 | 0  | 14     |
| Totals  | 3 | 10 | 14 | 27     |

| From/To | A | B  | C   | Totals |
|---------|---|----|-----|--------|
| A       | 0 | 0  | 10  | 10     |
| B       | 0 | 0  | 94  | 94     |
| C       | 3 | 10 | 0   | 14     |
| Totals  | 3 | 10 | 104 | 118    |

| From/To | A      | B      | C     | Average |
|---------|--------|--------|-------|---------|
| A       | 0.0%   | 0.0%   | 35.1% | 12%     |
| B       | 0.0%   | 0.0%   | 10.6% | 4%      |
| C       | 100.0% | 100.0% | 0.0%  | 67%     |
| Average | 33%    | 33%    | 15%   | 27%     |

## **Forecast Flows + EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South**

### **AM Peak Traffic**

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 84  | 634 | 717    |
| B       | 42  | 0   | 251 | 293    |
| C       | 398 | 324 | 0   | 722    |
| Totals  | 440 | 407 | 884 | 1732   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 5  | 31 | 36     |
| B       | 2  | 0  | 19 | 21     |
| C       | 32 | 23 | 0  | 55     |
| Totals  | 34 | 28 | 49 | 112    |

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 89  | 665 | 753    |
| B       | 44  | 0   | 269 | 314    |
| C       | 430 | 346 | 0   | 776    |
| Totals  | 474 | 435 | 934 | 1843   |

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.0% | 4.7% | 4%      |
| B       | 4.8% | 0.0% | 6.9% | 4%      |
| C       | 7.5% | 6.6% | 0.0% | 5%      |
| Average | 4%   | 4%   | 4%   | 4%      |

### **PM Peak Traffic**

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 482 | 547    |
| B       | 77  | 0   | 381 | 458    |
| C       | 601 | 296 | 0   | 897    |
| Totals  | 679 | 362 | 863 | 1904   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 0  | 18 | 18     |
| B       | 0  | 0  | 11 | 11     |
| C       | 15 | 13 | 0  | 28     |
| Totals  | 15 | 13 | 29 | 58     |

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 66  | 500 | 566    |
| B       | 77  | 0   | 392 | 469    |
| C       | 617 | 310 | 0   | 926    |
| Totals  | 694 | 375 | 892 | 1961   |

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 3.7% | 1%      |
| B       | 0.0% | 0.0% | 2.8% | 1%      |
| C       | 2.5% | 4.3% | 0.0% | 2%      |
| Average | 1%   | 1%   | 2%   | 1%      |

| Junctions 8                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |
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**Filename:** Junction 1 - A12 and A1094.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 08/07/2019 13:38:42

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

## Summary of junction performance

|                                                                                      | AM          |           |      |     | PM          |           |      |     |
|--------------------------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| <b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023</b> |             |           |      |     |             |           |      |     |
| Stream B-C                                                                           | 1.46        | 18.82     | 0.60 | C   | 3.63        | 32.83     | 0.80 | D   |
| Stream B-A                                                                           | 0.43        | 27.09     | 0.31 | D   | 0.87        | 34.38     | 0.48 | D   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream C-B                                                                           | 3.96        | 41.00     | 0.82 | E   | 1.66        | 18.54     | 0.63 | C   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023</b> |             |           |      |     |             |           |      |     |
| Stream B-C                                                                           | 1.66        | 20.66     | 0.63 | C   | 4.14        | 36.65     | 0.82 | E   |
| Stream B-A                                                                           | 0.31        | 23.21     | 0.24 | C   | 0.75        | 33.14     | 0.44 | D   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream C-B                                                                           | 5.09        | 51.61     | 0.86 | F   | 1.95        | 21.20     | 0.67 | C   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023</b>        |             |           |      |     |             |           |      |     |
| Stream B-C                                                                           | 1.43        | 18.41     | 0.59 | C   | 2.90        | 27.21     | 0.75 | D   |
| Stream B-A                                                                           | 0.38        | 24.78     | 0.28 | C   | 0.72        | 28.73     | 0.43 | D   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream C-B                                                                           | 3.18        | 34.32     | 0.77 | D   | 1.66        | 18.47     | 0.63 | C   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023</b>        |             |           |      |     |             |           |      |     |
| Stream B-C                                                                           | 1.58        | 19.81     | 0.62 | C   | 3.20        | 29.45     | 0.77 | D   |
| Stream B-A                                                                           | 0.29        | 21.74     | 0.23 | C   | 0.62        | 27.00     | 0.39 | D   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream C-B                                                                           | 3.74        | 39.75     | 0.81 | E   | 1.85        | 20.28     | 0.66 | C   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background 2023</b>                                    |             |           |      |     |             |           |      |     |
| Stream B-C                                                                           | 1.34        | 17.25     | 0.58 | C   | 1.48        | 16.53     | 0.60 | C   |
| Stream B-A                                                                           | 0.24        | 17.80     | 0.19 | C   | 0.45        | 19.40     | 0.31 | C   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream C-B                                                                           | 1.54        | 20.45     | 0.61 | C   | 1.61        | 17.95     | 0.62 | C   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM" model duration: 07:15 - 08:45

"D2 - Forecast Background 2023, PM" model duration: 16:15 - 17:45

"D3 - Forecast Background + EA2 Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D4 - Forecast Background + EA2 Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D5 - Forecast Background + EA2 Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D6 - Forecast Background + EA2 Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

"D7 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D8 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D9 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D10 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 08/07/2019 13:38:29

## File summary

|                    |                                   |
|--------------------|-----------------------------------|
| <b>Title</b>       | East Anglia TWO Offshore Windfarm |
| <b>Location</b>    | Junction of the A12 and A1094     |
| <b>Site Number</b> | J1                                |
| <b>Date</b>        | 24/06/2019                        |
| <b>Version</b>     | D0.1                              |
| <b>Status</b>      | Existing Layout                   |
| <b>Identifier</b>  |                                   |
| <b>Client</b>      | Scottish Power                    |
| <b>Jobnumber</b>   | PB4842                            |
| <b>Enumerator</b>  | 304111                            |
| <b>Description</b> |                                   |

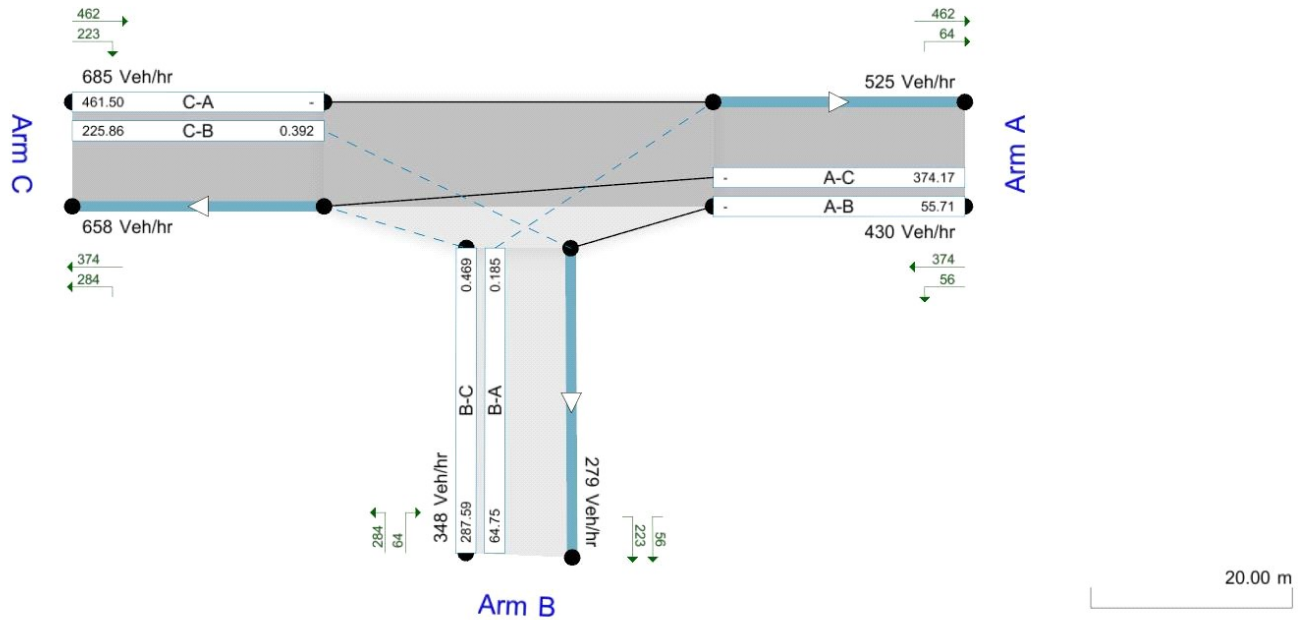
## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |





Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:15-07:30)  
Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 18.76              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

### Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 619.747            | 0.088         | 0.223         | 0.140         | 0.319         |
| 1        | B-C    | 760.204            | 0.111         | 0.282         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 750.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 303.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 672.00                       | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 564.64                            | 589.56                              |                                  |                                        |
| 07:15-07:30  | B   | 228.11                            | 236.14                              |                                  |                                        |
| 07:15-07:30  | C   | 505.92                            | 536.90                              |                                  |                                        |
| 07:30-07:45  | A   | 674.23                            | 703.99                              |                                  |                                        |
| 07:30-07:45  | B   | 272.39                            | 281.97                              |                                  |                                        |
| 07:30-07:45  | C   | 604.11                            | 641.12                              |                                  |                                        |
| 07:45-08:00  | A   | 825.77                            | 862.21                              |                                  |                                        |
| 07:45-08:00  | B   | 333.61                            | 345.35                              |                                  |                                        |
| 07:45-08:00  | C   | 739.89                            | 785.20                              |                                  |                                        |
| 08:00-08:15  | A   | 825.77                            | 862.21                              |                                  |                                        |
| 08:00-08:15  | B   | 333.61                            | 345.35                              |                                  |                                        |
| 08:00-08:15  | C   | 739.89                            | 785.20                              |                                  |                                        |
| 08:15-08:30  | A   | 674.23                            | 703.99                              |                                  |                                        |
| 08:15-08:30  | B   | 272.39                            | 281.97                              |                                  |                                        |
| 08:15-08:30  | C   | 604.11                            | 641.12                              |                                  |                                        |
| 08:30-08:45  | A   | 564.64                            | 589.56                              |                                  |                                        |
| 08:30-08:45  | B   | 228.11                            | 236.14                              |                                  |                                        |
| 08:30-08:45  | C   | 505.92                            | 536.90                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 89.000  | 661.000 |
|      | B  | 44.000  | 0.000   | 259.000 |
|      | C  | 420.000 | 252.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.15 | 0.00 | 0.85 |
|      | C  | 0.63 | 0.38 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.060 | 1.042 |
|      | B  | 1.048 | 1.000 | 1.033 |
|      | C  | 1.068 | 1.050 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 6.0 | 4.2 |
|      | B  | 4.8 | 0.0 | 3.3 |
|      | C  | 6.8 | 5.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.58    | 17.25         | 1.34            | C       | 237.66                  | 356.49                        | 76.51                          | 12.88                      | 0.85                                 | 76.53                                    | 12.88                                |
| B-A    | 0.19    | 17.80         | 0.24            | C       | 40.38                   | 60.56                         | 14.05                          | 13.92                      | 0.16                                 | 14.06                                    | 13.93                                |
| C-A    | -       | -             | -               | -       | 385.40                  | 578.10                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.61    | 20.45         | 1.54            | C       | 231.24                  | 346.86                        | 86.57                          | 14.97                      | 0.96                                 | 86.59                                    | 14.98                                |
| A-B    | -       | -             | -               | -       | 81.67                   | 122.50                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 606.55                  | 909.82                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 194.99                | 48.75                   | 192.96              | 0.00                       | 573.66            | 0.340 | 0.00              | 0.51            | 9.408     | A   |
| B-A    | 33.13                 | 8.28                    | 32.73               | 0.00                       | 367.80            | 0.090 | 0.00              | 0.10            | 10.733    | B   |
| C-A    | 316.20                | 79.05                   | 316.20              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 189.72                | 47.43                   | 187.46              | 0.00                       | 520.15            | 0.365 | 0.00              | 0.56            | 10.751    | B   |
| A-B    | 67.00                 | 16.75                   | 67.00               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 497.64                | 124.41                  | 497.64              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 232.84                | 58.21                   | 231.90              | 0.00                       | 540.73            | 0.431 | 0.51              | 0.74            | 11.621    | B   |
| B-A    | 39.56                 | 9.89                    | 39.39               | 0.00                       | 321.34            | 0.123 | 0.10              | 0.14            | 12.758    | B   |
| C-A    | 377.57                | 94.39                   | 377.57              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 226.54                | 56.64                   | 225.47              | 0.00                       | 491.93            | 0.461 | 0.56              | 0.83            | 13.453    | B   |
| A-B    | 80.01                 | 20.00                   | 80.01               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 594.23                | 148.56                  | 594.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 285.16                | 71.29                   | 282.88              | 0.00                       | 493.71            | 0.578 | 0.74              | 1.31            | 16.889    | C   |
| B-A    | 48.44                 | 12.11                   | 48.07               | 0.00                       | 251.95            | 0.192 | 0.14              | 0.23            | 17.623    | C   |
| C-A    | 462.43                | 115.61                  | 462.43              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 277.46                | 69.36                   | 274.78              | 0.00                       | 452.90            | 0.613 | 0.83              | 1.50            | 19.909    | C   |
| A-B    | 97.99                 | 24.50                   | 97.99               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 727.77                | 181.94                  | 727.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 285.16                | 71.29                   | 285.05              | 0.00                       | 493.43            | 0.578 | 1.31              | 1.34            | 17.251    | C   |
| B-A    | 48.44                 | 12.11                   | 48.43               | 0.00                       | 250.59            | 0.193 | 0.23              | 0.24            | 17.805    | C   |
| C-A    | 462.43                | 115.61                  | 462.43              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 277.46                | 69.36                   | 277.30              | 0.00                       | 452.90            | 0.613 | 1.50              | 1.54            | 20.449    | C   |
| A-B    | 97.99                 | 24.50                   | 97.99               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 727.77                | 181.94                  | 727.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 232.84                | 58.21                   | 235.10              | 0.00                       | 540.42            | 0.431 | 1.34              | 0.77            | 11.877    | B   |
| B-A    | 39.56                 | 9.89                    | 39.93               | 0.00                       | 319.82            | 0.124 | 0.24              | 0.14            | 12.878    | B   |
| C-A    | 377.57                | 94.39                   | 377.57              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 226.54                | 56.64                   | 229.19              | 0.00                       | 491.93            | 0.461 | 1.54              | 0.88            | 13.837    | B   |
| A-B    | 80.01                 | 20.00                   | 80.01               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 594.23                | 148.56                  | 594.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 194.99                | 48.75                   | 195.99              | 0.00                       | 573.39            | 0.340 | 0.77              | 0.52            | 9.563     | A   |
| B-A    | 33.13                 | 8.28                    | 33.30               | 0.00                       | 366.57            | 0.090 | 0.14              | 0.10            | 10.806    | B   |
| C-A    | 316.20                | 79.05                   | 316.20              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 189.72                | 47.43                   | 190.89              | 0.00                       | 520.15            | 0.365 | 0.88              | 0.58            | 10.973    | B   |
| A-B    | 67.00                 | 16.75                   | 67.00               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 497.64                | 124.41                  | 497.64              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Queueing Delay Results for each time segment

#### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 7.23                           | 0.48                                 | 9.408                                  | A                             | A                           |
| B-A    | 1.40                           | 0.09                                 | 10.733                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 7.99                           | 0.53                                 | 10.751                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 10.64                          | 0.71                                 | 11.621                                 | B                             | B                           |
| B-A    | 2.00                           | 0.13                                 | 12.758                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 11.89                          | 0.79                                 | 13.453                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 18.32                          | 1.22                                 | 16.889                                 | C                             | B                           |
| B-A    | 3.32                           | 0.22                                 | 17.623                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 20.72                          | 1.38                                 | 19.909                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 19.93                          | 1.33                                 | 17.251                                 | C                             | B                           |
| B-A    | 3.53                           | 0.24                                 | 17.805                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 22.84                          | 1.52                                 | 20.449                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 12.24                          | 0.82                                 | 11.877                                 | B                             | B                           |
| B-A    | 2.25                           | 0.15                                 | 12.878                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 13.97                          | 0.93                                 | 13.837                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 8.15                           | 0.54                                 | 9.563                                  | A                             | A                           |
| B-A    | 1.56                           | 0.10                                 | 10.806                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 9.16                           | 0.61                                 | 10.973                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 17.49              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 620.970            | 0.088         | 0.224         | 0.141         | 0.319         |
| 1        | B-C    | 758.925            | 0.111         | 0.281         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |



# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 556.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 375.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 913.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 418.59                            | 429.65                              |                                  |                                        |
| 16:15-16:30  | B   | 282.32                            | 283.22                              |                                  |                                        |
| 16:15-16:30  | C   | 687.35                            | 698.61                              |                                  |                                        |
| 16:30-16:45  | A   | 499.83                            | 513.05                              |                                  |                                        |
| 16:30-16:45  | B   | 337.12                            | 338.19                              |                                  |                                        |
| 16:30-16:45  | C   | 820.77                            | 834.21                              |                                  |                                        |
| 16:45-17:00  | A   | 612.17                            | 628.35                              |                                  |                                        |
| 16:45-17:00  | B   | 412.88                            | 414.20                              |                                  |                                        |
| 16:45-17:00  | C   | 1005.23                           | 1021.69                             |                                  |                                        |
| 17:00-17:15  | A   | 612.17                            | 628.35                              |                                  |                                        |
| 17:00-17:15  | B   | 412.88                            | 414.20                              |                                  |                                        |
| 17:00-17:15  | C   | 1005.23                           | 1021.69                             |                                  |                                        |
| 17:15-17:30  | A   | 499.83                            | 513.05                              |                                  |                                        |
| 17:15-17:30  | B   | 337.12                            | 338.19                              |                                  |                                        |
| 17:15-17:30  | C   | 820.77                            | 834.21                              |                                  |                                        |
| 17:30-17:45  | A   | 418.59                            | 429.65                              |                                  |                                        |
| 17:30-17:45  | B   | 282.32                            | 283.22                              |                                  |                                        |
| 17:30-17:45  | C   | 687.35                            | 698.61                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 66.000  | 490.000 |
|      | B  | 77.000  | 0.000   | 298.000 |
|      | C  | 613.000 | 300.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.21 | 0.00 | 0.79 |
|      | C  | 0.67 | 0.33 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.030 |
|      | B  | 1.000 | 1.000 | 1.004 |
|      | C  | 1.019 | 1.011 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 3.0 |
|      | B  | 0.0 | 0.0 | 0.4 |
|      | C  | 1.9 | 1.1 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.60    | 16.53         | 1.48            | C       | 273.45                  | 410.18                        | 84.17                          | 12.31                      | 0.94                                 | 84.18                                    | 12.31                                |
| B-A    | 0.31    | 19.40         | 0.45            | C       | 70.66                   | 105.98                        | 25.80                          | 14.60                      | 0.29                                 | 25.80                                    | 14.61                                |
| C-A    | -       | -             | -               | -       | 562.50                  | 843.75                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.62    | 17.95         | 1.61            | C       | 275.29                  | 412.93                        | 92.94                          | 13.50                      | 1.03                                 | 92.96                                    | 13.51                                |
| A-B    | -       | -             | -               | -       | 60.56                   | 90.84                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 449.63                  | 674.45                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 224.35                | 56.09                   | 222.12              | 0.00                       | 620.11            | 0.362 | 0.00              | 0.56            | 8.996     | A   |
| B-A    | 57.97                 | 14.49                   | 57.28               | 0.00                       | 390.99            | 0.148 | 0.00              | 0.17            | 10.767    | B   |
| C-A    | 461.50                | 115.37                  | 461.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 225.86                | 56.46                   | 223.36              | 0.00                       | 581.18            | 0.389 | 0.00              | 0.62            | 9.994     | A   |
| A-B    | 49.69                 | 12.42                   | 49.69               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 368.90                | 92.22                   | 368.90              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 267.90                | 66.97                   | 266.88              | 0.00                       | 590.63            | 0.454 | 0.56              | 0.81            | 11.084    | B   |
| B-A    | 69.22                 | 17.31                   | 68.91               | 0.00                       | 343.03            | 0.202 | 0.17              | 0.25            | 13.118    | B   |
| C-A    | 551.07                | 137.77                  | 551.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 269.69                | 67.42                   | 268.56              | 0.00                       | 559.82            | 0.482 | 0.62              | 0.91            | 12.310    | B   |
| A-B    | 59.33                 | 14.83                   | 59.33               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 440.50                | 110.12                  | 440.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 328.10                | 82.03                   | 325.58              | 0.00                       | 546.07            | 0.601 | 0.81              | 1.44            | 16.139    | C   |
| B-A    | 84.78                 | 21.19                   | 84.01               | 0.00                       | 271.60            | 0.312 | 0.25              | 0.44            | 19.108    | C   |
| C-A    | 674.93                | 168.73                  | 674.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 330.31                | 82.58                   | 327.64              | 0.00                       | 530.28            | 0.623 | 0.91              | 1.57            | 17.529    | C   |
| A-B    | 72.67                 | 18.17                   | 72.67               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 539.50                | 134.88                  | 539.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 328.10                | 82.03                   | 327.97              | 0.00                       | 545.44            | 0.602 | 1.44              | 1.48            | 16.528    | C   |
| B-A    | 84.78                 | 21.19                   | 84.74               | 0.00                       | 270.18            | 0.314 | 0.44              | 0.45            | 19.404    | C   |
| C-A    | 674.93                | 168.73                  | 674.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 330.31                | 82.58                   | 330.16              | 0.00                       | 530.28            | 0.623 | 1.57              | 1.61            | 17.952    | C   |
| A-B    | 72.67                 | 18.17                   | 72.67               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 539.50                | 134.88                  | 539.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 267.90                | 66.97                   | 270.40              | 0.00                       | 589.96            | 0.454 | 1.48              | 0.85            | 11.350    | B   |
| B-A    | 69.22                 | 17.31                   | 69.98               | 0.00                       | 341.46            | 0.203 | 0.45              | 0.26            | 13.296    | B   |
| C-A    | 551.07                | 137.77                  | 551.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 269.69                | 67.42                   | 272.32              | 0.00                       | 559.82            | 0.482 | 1.61              | 0.95            | 12.632    | B   |
| A-B    | 59.33                 | 14.83                   | 59.33               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 440.50                | 110.12                  | 440.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 224.35                | 56.09                   | 225.44              | 0.00                       | 619.58            | 0.362 | 0.85              | 0.58            | 9.160     | A   |
| B-A    | 57.97                 | 14.49                   | 58.30               | 0.00                       | 389.66            | 0.149 | 0.26              | 0.18            | 10.876    | B   |
| C-A    | 461.50                | 115.37                  | 461.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 225.86                | 56.46                   | 227.08              | 0.00                       | 581.18            | 0.389 | 0.95              | 0.65            | 10.203    | B   |
| A-B    | 49.69                 | 12.42                   | 49.69               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 368.90                | 92.22                   | 368.90              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 7.97                           | 0.53                                 | 8.996                                  | A                             | A                           |
| B-A    | 2.46                           | 0.16                                 | 10.767                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 8.86                           | 0.59                                 | 9.994                                  | A                             | A                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 11.68                          | 0.78                                 | 11.084                                 | B                             | B                           |
| B-A    | 3.59                           | 0.24                                 | 13.118                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 12.99                          | 0.87                                 | 12.310                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 20.14                          | 1.34                                 | 16.139                                 | C                             | B                           |
| B-A    | 6.23                           | 0.42                                 | 19.108                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 21.88                          | 1.46                                 | 17.529                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 21.94                          | 1.46                                 | 16.528                                 | C                             | B                           |
| B-A    | 6.69                           | 0.45                                 | 19.404                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 23.94                          | 1.60                                 | 17.952                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 13.45                          | 0.90                                 | 11.350                                 | B                             | B                           |
| B-A    | 4.07                           | 0.27                                 | 13.296                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 15.14                          | 1.01                                 | 12.632                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 8.98                           | 0.60                                 | 9.160                                  | A                             | A                           |
| B-A    | 2.75                           | 0.18                                 | 10.876                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 10.11                          | 0.67                                 | 10.203                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(S)) 2023, AM | Forecast Background + EA2 Construction (A12(S)) 2023 | AM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 30.17              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 619.747            | 0.088         | 0.223         | 0.140         | 0.319         |
| 1        | B-C    | 760.204            | 0.111         | 0.282         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 753.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 311.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 755.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 566.90                            | 593.91                              |                                  |                                        |
| 07:15-07:30  | B   | 234.14                            | 247.99                              |                                  |                                        |
| 07:15-07:30  | C   | 568.40                            | 607.44                              |                                  |                                        |
| 07:30-07:45  | A   | 676.93                            | 709.19                              |                                  |                                        |
| 07:30-07:45  | B   | 279.58                            | 296.12                              |                                  |                                        |
| 07:30-07:45  | C   | 678.73                            | 725.35                              |                                  |                                        |
| 07:45-08:00  | A   | 829.07                            | 868.58                              |                                  |                                        |
| 07:45-08:00  | B   | 342.42                            | 362.68                              |                                  |                                        |
| 07:45-08:00  | C   | 831.27                            | 888.36                              |                                  |                                        |
| 08:00-08:15  | A   | 829.07                            | 868.58                              |                                  |                                        |
| 08:00-08:15  | B   | 342.42                            | 362.68                              |                                  |                                        |
| 08:00-08:15  | C   | 831.27                            | 888.36                              |                                  |                                        |
| 08:15-08:30  | A   | 676.93                            | 709.19                              |                                  |                                        |
| 08:15-08:30  | B   | 279.58                            | 296.12                              |                                  |                                        |
| 08:15-08:30  | C   | 678.73                            | 725.35                              |                                  |                                        |
| 08:30-08:45  | A   | 566.90                            | 593.91                              |                                  |                                        |
| 08:30-08:45  | B   | 234.14                            | 247.99                              |                                  |                                        |
| 08:30-08:45  | C   | 568.40                            | 607.44                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 89.000  | 664.000 |
|      | B  | 44.000  | 0.000   | 267.000 |
|      | C  | 429.000 | 326.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.14 | 0.00 | 0.86 |
|      | C  | 0.57 | 0.43 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.060 | 1.046 |
|      | B  | 1.048 | 1.000 | 1.061 |
|      | C  | 1.073 | 1.063 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 6.0 | 4.6 |
|      | B  | 4.8 | 0.0 | 6.1 |
|      | C  | 7.3 | 6.3 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.62    | 19.81         | 1.58            | C       | 245.00                  | 367.51                        | 87.18                          | 14.23                      | 0.97                                 | 87.20                                    | 14.24                                |
| B-A    | 0.23    | 21.74         | 0.29            | C       | 40.38                   | 60.56                         | 16.11                          | 15.96                      | 0.18                                 | 16.11                                    | 15.96                                |
| C-A    | -       | -             | -               | -       | 393.66                  | 590.49                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.81    | 39.75         | 3.74            | E       | 299.14                  | 448.71                        | 173.25                         | 23.17                      | 1.93                                 | 173.30                                   | 23.17                                |
| A-B    | -       | -             | -               | -       | 81.67                   | 122.50                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 609.30                  | 913.95                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 201.01                | 50.25                   | 198.79              | 0.00                       | 556.62            | 0.361 | 0.00              | 0.56            | 10.000    | A   |
| B-A    | 33.13                 | 8.28                    | 32.71               | 0.00                       | 346.40            | 0.096 | 0.00              | 0.10            | 11.461    | B   |
| C-A    | 322.97                | 80.74                   | 322.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 245.43                | 61.36                   | 241.86              | 0.00                       | 512.73            | 0.479 | 0.00              | 0.89            | 13.127    | B   |
| A-B    | 67.00                 | 16.75                   | 67.00               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 499.89                | 124.97                  | 499.89              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 240.03                | 60.01                   | 238.95              | 0.00                       | 523.67            | 0.458 | 0.56              | 0.83            | 12.594    | B   |
| B-A    | 39.56                 | 9.89                    | 39.36               | 0.00                       | 294.67            | 0.134 | 0.10              | 0.15            | 14.091    | B   |
| C-A    | 385.66                | 96.42                   | 385.66              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 293.07                | 73.27                   | 290.80              | 0.00                       | 484.64            | 0.605 | 0.89              | 1.46            | 18.348    | C   |
| A-B    | 80.01                 | 20.00                   | 80.01               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 596.92                | 149.23                  | 596.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 293.97                | 73.49                   | 291.13              | 0.00                       | 475.67            | 0.618 | 0.83              | 1.54            | 19.210    | C   |
| B-A    | 48.44                 | 12.11                   | 47.94               | 0.00                       | 217.15            | 0.223 | 0.15              | 0.28            | 21.210    | C   |
| C-A    | 472.34                | 118.08                  | 472.34              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 358.93                | 89.73                   | 350.92              | 0.00                       | 445.81            | 0.805 | 1.46              | 3.46            | 35.249    | E   |
| A-B    | 97.99                 | 24.50                   | 97.99               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 731.08                | 182.77                  | 731.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 293.97                | 73.49                   | 293.80              | 0.00                       | 475.06            | 0.619 | 1.54              | 1.58            | 19.811    | C   |
| B-A    | 48.44                 | 12.11                   | 48.41               | 0.00                       | 213.92            | 0.226 | 0.28              | 0.29            | 21.741    | C   |
| C-A    | 472.34                | 118.08                  | 472.34              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 358.93                | 89.73                   | 357.83              | 0.00                       | 445.81            | 0.805 | 3.46              | 3.74            | 39.751    | E   |
| A-B    | 97.99                 | 24.50                   | 97.99               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 731.08                | 182.77                  | 731.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 240.03                | 60.01                   | 242.86              | 0.00                       | 523.10            | 0.459 | 1.58              | 0.87            | 12.970    | B   |
| B-A    | 39.56                 | 9.89                    | 40.06               | 0.00                       | 290.60            | 0.136 | 0.29              | 0.16            | 14.396    | B   |
| C-A    | 385.66                | 96.42                   | 385.66              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 293.07                | 73.27                   | 301.59              | 0.00                       | 484.64            | 0.605 | 3.74              | 1.61            | 20.483    | C   |
| A-B    | 80.01                 | 20.00                   | 80.01               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 596.92                | 149.23                  | 596.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 201.01                | 50.25                   | 202.19              | 0.00                       | 556.27            | 0.361 | 0.87              | 0.58            | 10.202    | B   |
| B-A    | 33.13                 | 8.28                    | 33.34               | 0.00                       | 344.17            | 0.096 | 0.16              | 0.11            | 11.591    | B   |
| C-A    | 322.97                | 80.74                   | 322.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 245.43                | 61.36                   | 248.08              | 0.00                       | 512.73            | 0.479 | 1.61              | 0.94            | 13.734    | B   |
| A-B    | 67.00                 | 16.75                   | 67.00               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 499.89                | 124.97                  | 499.89              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 7.90                           | 0.53                                 | 10.000                                 | A                             | A                           |
| B-A    | 1.49                           | 0.10                                 | 11.461                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 12.45                          | 0.83                                 | 13.127                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 11.82                          | 0.79                                 | 12.594                                 | B                             | B                           |
| B-A    | 2.20                           | 0.15                                 | 14.091                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 20.35                          | 1.36                                 | 18.348                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 21.20                          | 1.41                                 | 19.210                                 | C                             | B                           |
| B-A    | 3.94                           | 0.26                                 | 21.210                                 | C                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 44.02                          | 2.93                                 | 35.249                                 | E                             | D                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 23.42                          | 1.56                                 | 19.811                                 | C                             | B                           |
| B-A    | 4.27                           | 0.28                                 | 21.741                                 | C                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 54.35                          | 3.62                                 | 39.751                                 | E                             | D                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 13.84                          | 0.92                                 | 12.970                                 | B                             | B                           |
| B-A    | 2.53                           | 0.17                                 | 14.396                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 27.06                          | 1.80                                 | 20.483                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 9.00                           | 0.60                                 | 10.202                                 | B                             | B                           |
| B-A    | 1.68                           | 0.11                                 | 11.591                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 15.03                          | 1.00                                 | 13.734                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(S)) 2023, PM | Forecast Background + EA2 Construction (A12(S)) 2023 | PM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 25.45              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 619.747            | 0.088         | 0.223         | 0.140         | 0.319         |
| 1        | B-C    | 760.204            | 0.111         | 0.282         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 565.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 449.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 923.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 425.36                            | 438.51                              |                                  |                                        |
| 16:15-16:30  | B   | 338.03                            | 344.75                              |                                  |                                        |
| 16:15-16:30  | C   | 694.88                            | 713.64                              |                                  |                                        |
| 16:30-16:45  | A   | 507.92                            | 523.62                              |                                  |                                        |
| 16:30-16:45  | B   | 403.64                            | 411.67                              |                                  |                                        |
| 16:30-16:45  | C   | 829.76                            | 852.15                              |                                  |                                        |
| 16:45-17:00  | A   | 622.08                            | 641.31                              |                                  |                                        |
| 16:45-17:00  | B   | 494.36                            | 504.19                              |                                  |                                        |
| 16:45-17:00  | C   | 1016.24                           | 1043.67                             |                                  |                                        |
| 17:00-17:15  | A   | 622.08                            | 641.31                              |                                  |                                        |
| 17:00-17:15  | B   | 494.36                            | 504.19                              |                                  |                                        |
| 17:00-17:15  | C   | 1016.24                           | 1043.67                             |                                  |                                        |
| 17:15-17:30  | A   | 507.92                            | 523.62                              |                                  |                                        |
| 17:15-17:30  | B   | 403.64                            | 411.67                              |                                  |                                        |
| 17:15-17:30  | C   | 829.76                            | 852.15                              |                                  |                                        |
| 17:30-17:45  | A   | 425.36                            | 438.51                              |                                  |                                        |
| 17:30-17:45  | B   | 338.03                            | 344.75                              |                                  |                                        |
| 17:30-17:45  | C   | 694.88                            | 713.64                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      |   | To      |         |         |
|------|---|---------|---------|---------|
| From |   | A       | B       | C       |
|      | A | 0.000   | 66.000  | 499.000 |
|      | B | 77.000  | 0.000   | 372.000 |
|      | C | 616.000 | 307.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | A    | B    | C    |
|      | A | 0.00 | 0.12 | 0.88 |
|      | B | 0.17 | 0.00 | 0.83 |
|      | C | 0.67 | 0.33 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.035 |
|      | B  | 1.000 | 1.000 | 1.024 |
|      | C  | 1.023 | 1.035 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 3.5 |
|      | B  | 0.0 | 0.0 | 2.4 |
|      | C  | 2.3 | 3.5 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.77    | 29.45         | 3.20            | D       | 341.35                  | 512.03                        | 154.40                         | 18.09                      | 1.72                                 | 154.44                                   | 18.10                                |
| B-A    | 0.39    | 27.00         | 0.62            | D       | 70.66                   | 105.98                        | 30.97                          | 17.53                      | 0.34                                 | 30.97                                    | 17.53                                |
| C-A    | -       | -             | -               | -       | 565.25                  | 847.88                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.66    | 20.28         | 1.85            | C       | 281.71                  | 422.56                        | 104.15                         | 14.79                      | 1.16                                 | 104.17                                   | 14.79                                |
| A-B    | -       | -             | -               | -       | 60.56                   | 90.84                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 457.89                  | 686.84                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 280.06                | 70.02                   | 276.70              | 0.00                       | 606.22            | 0.462 | 0.00              | 0.84            | 10.819    | B   |
| B-A    | 57.97                 | 14.49                   | 57.26               | 0.00                       | 379.76            | 0.153 | 0.00              | 0.18            | 11.138    | B   |
| C-A    | 463.76                | 115.94                  | 463.76              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 231.13                | 57.78                   | 228.42              | 0.00                       | 565.49            | 0.409 | 0.00              | 0.68            | 10.597    | B   |
| A-B    | 49.69                 | 12.42                   | 49.69               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 375.67                | 93.92                   | 375.67              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 334.42                | 83.61                   | 332.45              | 0.00                       | 576.40            | 0.580 | 0.84              | 1.33            | 14.634    | B   |
| B-A    | 69.22                 | 17.31                   | 68.86               | 0.00                       | 322.81            | 0.214 | 0.18              | 0.27            | 14.156    | B   |
| C-A    | 553.77                | 138.44                  | 553.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 275.99                | 69.00                   | 274.69              | 0.00                       | 544.19            | 0.507 | 0.68              | 1.00            | 13.290    | B   |
| A-B    | 59.33                 | 14.83                   | 59.33               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 448.59                | 112.15                  | 448.59              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 409.58                | 102.39                  | 402.87              | 0.00                       | 530.36            | 0.772 | 1.33              | 3.01            | 26.904    | D   |
| B-A    | 84.78                 | 21.19                   | 83.51               | 0.00                       | 223.37            | 0.380 | 0.27              | 0.59            | 25.513    | D   |
| C-A    | 678.23                | 169.56                  | 678.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 338.01                | 84.50                   | 334.80              | 0.00                       | 514.74            | 0.657 | 1.00              | 1.80            | 19.651    | C   |
| A-B    | 72.67                 | 18.17                   | 72.67               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 549.41                | 137.35                  | 549.41              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 409.58                | 102.39                  | 408.84              | 0.00                       | 529.26            | 0.774 | 3.01              | 3.20            | 29.449    | D   |
| B-A    | 84.78                 | 21.19                   | 84.65               | 0.00                       | 217.75            | 0.389 | 0.59              | 0.62            | 26.996    | D   |
| C-A    | 678.23                | 169.56                  | 678.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 338.01                | 84.50                   | 337.81              | 0.00                       | 514.74            | 0.657 | 1.80              | 1.85            | 20.282    | C   |
| A-B    | 72.67                 | 18.17                   | 72.67               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 549.41                | 137.35                  | 549.41              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 334.42                | 83.61                   | 341.44              | 0.00                       | 575.39            | 0.581 | 3.20              | 1.44            | 15.816    | C   |
| B-A    | 69.22                 | 17.31                   | 70.56               | 0.00                       | 318.77            | 0.217 | 0.62              | 0.28            | 14.577    | B   |
| C-A    | 553.77                | 138.44                  | 553.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 275.99                | 69.00                   | 279.17              | 0.00                       | 544.19            | 0.507 | 1.85              | 1.06            | 13.740    | B   |
| A-B    | 59.33                 | 14.83                   | 59.33               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 448.59                | 112.15                  | 448.59              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 280.06                | 70.02                   | 282.31              | 0.00                       | 605.66            | 0.462 | 1.44              | 0.88            | 11.208    | B   |
| B-A    | 57.97                 | 14.49                   | 58.37               | 0.00                       | 377.72            | 0.153 | 0.28              | 0.18            | 11.288    | B   |
| C-A    | 463.76                | 115.94                  | 463.76              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 231.13                | 57.78                   | 232.54              | 0.00                       | 565.49            | 0.409 | 1.06              | 0.70            | 10.857    | B   |
| A-B    | 49.69                 | 12.42                   | 49.69               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 375.67                | 93.92                   | 375.67              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 11.83                          | 0.79                                 | 10.819                                 | B                             | B                           |
| B-A    | 2.54                           | 0.17                                 | 11.138                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 9.59                           | 0.64                                 | 10.597                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 18.81                          | 1.25                                 | 14.634                                 | B                             | B                           |
| B-A    | 3.86                           | 0.26                                 | 14.156                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 14.28                          | 0.95                                 | 13.290                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 39.40                          | 2.63                                 | 26.904                                 | D                             | C                           |
| B-A    | 8.10                           | 0.54                                 | 25.513                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 24.81                          | 1.65                                 | 19.651                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 46.82                          | 3.12                                 | 29.449                                 | D                             | C                           |
| B-A    | 9.10                           | 0.61                                 | 26.996                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 27.51                          | 1.83                                 | 20.282                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 23.67                          | 1.58                                 | 15.816                                 | C                             | B                           |
| B-A    | 4.51                           | 0.30                                 | 14.577                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 16.91                          | 1.13                                 | 13.740                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 13.88                          | 0.93                                 | 11.208                                 | B                             | B                           |
| B-A    | 2.87                           | 0.19                                 | 11.288                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 11.05                          | 0.74                                 | 10.857                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(N)) 2023, AM | Forecast Background + EA2 Construction (A12(N)) 2023 | AM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 27.00              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 619.747            | 0.088         | 0.223         | 0.140         | 0.319         |
| 1        | B-C    | 760.204            | 0.111         | 0.282         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 757.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 310.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 745.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 569.91                            | 599.92                              |                                  |                                        |
| 07:15-07:30  | B   | 233.38                            | 246.46                              |                                  |                                        |
| 07:15-07:30  | C   | 560.88                            | 591.97                              |                                  |                                        |
| 07:30-07:45  | A   | 680.53                            | 716.36                              |                                  |                                        |
| 07:30-07:45  | B   | 278.68                            | 294.30                              |                                  |                                        |
| 07:30-07:45  | C   | 669.74                            | 706.87                              |                                  |                                        |
| 07:45-08:00  | A   | 833.47                            | 877.36                              |                                  |                                        |
| 07:45-08:00  | B   | 341.32                            | 360.44                              |                                  |                                        |
| 07:45-08:00  | C   | 820.26                            | 865.73                              |                                  |                                        |
| 08:00-08:15  | A   | 833.47                            | 877.36                              |                                  |                                        |
| 08:00-08:15  | B   | 341.32                            | 360.44                              |                                  |                                        |
| 08:00-08:15  | C   | 820.26                            | 865.73                              |                                  |                                        |
| 08:15-08:30  | A   | 680.53                            | 716.36                              |                                  |                                        |
| 08:15-08:30  | B   | 278.68                            | 294.30                              |                                  |                                        |
| 08:15-08:30  | C   | 669.74                            | 706.87                              |                                  |                                        |
| 08:30-08:45  | A   | 569.91                            | 599.92                              |                                  |                                        |
| 08:30-08:45  | B   | 233.38                            | 246.46                              |                                  |                                        |
| 08:30-08:45  | C   | 560.88                            | 591.97                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 96.000  | 661.000 |
|      | B  | 51.000  | 0.000   | 259.000 |
|      | C  | 426.000 | 319.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.13 | 0.87 |
|      | B  | 0.16 | 0.00 | 0.84 |
|      | C  | 0.57 | 0.43 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.126 | 1.042 |
|      | B  | 1.173 | 1.000 | 1.033 |
|      | C  | 1.067 | 1.040 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |      |      |     |
|------|----|------|------|-----|
|      |    | A    | B    | C   |
| From | A  | 0.0  | 12.6 | 4.2 |
|      | B  | 17.3 | 0.0  | 3.3 |
|      | C  | 6.7  | 4.0  | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.59    | 18.41         | 1.43            | C       | 237.66                  | 356.49                        | 79.68                          | 13.41                      | 0.89                                 | 79.70                                    | 13.41                                |
| B-A    | 0.28    | 24.78         | 0.38            | C       | 46.80                   | 70.20                         | 21.22                          | 18.14                      | 0.24                                 | 21.22                                    | 18.14                                |
| C-A    | -       | -             | -               | -       | 390.91                  | 586.36                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.77    | 34.32         | 3.18            | D       | 292.72                  | 439.08                        | 153.44                         | 20.97                      | 1.70                                 | 153.48                                   | 20.97                                |
| A-B    | -       | -             | -               | -       | 88.09                   | 132.14                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 606.55                  | 909.82                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 194.99                | 48.75                   | 192.93              | 0.00                       | 567.82            | 0.343 | 0.00              | 0.51            | 9.551     | A   |
| B-A    | 38.40                 | 9.60                    | 37.85               | 0.00                       | 313.66            | 0.122 | 0.00              | 0.14            | 13.022    | B   |
| C-A    | 320.72                | 80.18                   | 320.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 240.16                | 60.04                   | 236.84              | 0.00                       | 522.57            | 0.460 | 0.00              | 0.83            | 12.462    | B   |
| A-B    | 72.27                 | 18.07                   | 72.27               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 497.64                | 124.41                  | 497.64              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 232.84                | 58.21                   | 231.86              | 0.00                       | 532.71            | 0.437 | 0.51              | 0.76            | 11.926    | B   |
| B-A    | 45.85                 | 11.46                   | 45.59               | 0.00                       | 269.14            | 0.170 | 0.14              | 0.20            | 16.091    | C   |
| C-A    | 382.97                | 95.74                   | 382.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 286.77                | 71.69                   | 284.77              | 0.00                       | 493.58            | 0.581 | 0.83              | 1.33            | 17.070    | C   |
| A-B    | 86.30                 | 21.58                   | 86.30               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 594.23                | 148.56                  | 594.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 285.16                | 71.29                   | 282.64              | 0.00                       | 480.96            | 0.593 | 0.76              | 1.39            | 17.923    | C   |
| B-A    | 56.15                 | 14.04                   | 55.49               | 0.00                       | 203.55            | 0.276 | 0.20              | 0.37            | 24.202    | C   |
| C-A    | 469.03                | 117.26                  | 469.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 351.23                | 87.81                   | 344.57              | 0.00                       | 453.48            | 0.775 | 1.33              | 2.99            | 31.269    | D   |
| A-B    | 105.70                | 26.42                   | 105.70              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 727.77                | 181.94                  | 727.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 285.16                | 71.29                   | 285.02              | 0.00                       | 480.16            | 0.594 | 1.39              | 1.43            | 18.413    | C   |
| B-A    | 56.15                 | 14.04                   | 56.11               | 0.00                       | 201.25            | 0.279 | 0.37              | 0.38            | 24.784    | C   |
| C-A    | 469.03                | 117.26                  | 469.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 351.23                | 87.81                   | 350.47              | 0.00                       | 453.48            | 0.775 | 2.99              | 3.18            | 34.319    | D   |
| A-B    | 105.70                | 26.42                   | 105.70              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 727.77                | 181.94                  | 727.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 232.84                | 58.21                   | 235.36              | 0.00                       | 531.96            | 0.438 | 1.43              | 0.80            | 12.236    | B   |
| B-A    | 45.85                 | 11.46                   | 46.51               | 0.00                       | 266.25            | 0.172 | 0.38              | 0.21            | 16.431    | C   |
| C-A    | 382.97                | 95.74                   | 382.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 286.77                | 71.69                   | 293.71              | 0.00                       | 493.58            | 0.581 | 3.18              | 1.45            | 18.583    | C   |
| A-B    | 86.30                 | 21.58                   | 86.30               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 594.23                | 148.56                  | 594.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 194.99                | 48.75                   | 196.05              | 0.00                       | 567.33            | 0.344 | 0.80              | 0.53            | 9.723     | A   |
| B-A    | 38.40                 | 9.60                    | 38.67               | 0.00                       | 311.93            | 0.123 | 0.21              | 0.14            | 13.189    | B   |
| C-A    | 320.72                | 80.18                   | 320.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 240.16                | 60.04                   | 242.46              | 0.00                       | 522.57            | 0.460 | 1.45              | 0.87            | 12.954    | B   |
| A-B    | 72.27                 | 18.07                   | 72.27               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 497.64                | 124.41                  | 497.64              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 7.34                           | 0.49                                 | 9.551                                  | A                             | A                           |
| B-A    | 1.95                           | 0.13                                 | 13.022                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 11.60                          | 0.77                                 | 12.462                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 10.90                          | 0.73                                 | 11.926                                 | B                             | B                           |
| B-A    | 2.89                           | 0.19                                 | 16.091                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 18.65                          | 1.24                                 | 17.070                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 19.33                          | 1.29                                 | 17.923                                 | C                             | B                           |
| B-A    | 5.16                           | 0.34                                 | 24.202                                 | C                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 38.81                          | 2.59                                 | 31.269                                 | D                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 21.19                          | 1.41                                 | 18.413                                 | C                             | B                           |
| B-A    | 5.62                           | 0.37                                 | 24.784                                 | C                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 46.57                          | 3.10                                 | 34.319                                 | D                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 12.63                          | 0.84                                 | 12.236                                 | B                             | B                           |
| B-A    | 3.37                           | 0.22                                 | 16.431                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 23.96                          | 1.60                                 | 18.583                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 8.30                           | 0.55                                 | 9.723                                  | A                             | A                           |
| B-A    | 2.23                           | 0.15                                 | 13.189                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 13.83                          | 0.92                                 | 12.954                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(N)) 2023, PM | Forecast Background + EA2 Construction (A12(N)) 2023 | PM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 23.90              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 620.548            | 0.088         | 0.223         | 0.141         | 0.319         |
| 1        | B-C    | 759.367            | 0.111         | 0.281         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |



# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 569.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 448.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 913.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 428.37                            | 444.64                              |                                  |                                        |
| 16:15-16:30  | B   | 337.28                            | 343.16                              |                                  |                                        |
| 16:15-16:30  | C   | 687.35                            | 698.61                              |                                  |                                        |
| 16:30-16:45  | A   | 511.52                            | 530.94                              |                                  |                                        |
| 16:30-16:45  | B   | 402.74                            | 409.77                              |                                  |                                        |
| 16:30-16:45  | C   | 820.77                            | 834.21                              |                                  |                                        |
| 16:45-17:00  | A   | 626.48                            | 650.27                              |                                  |                                        |
| 16:45-17:00  | B   | 493.26                            | 501.86                              |                                  |                                        |
| 16:45-17:00  | C   | 1005.23                           | 1021.69                             |                                  |                                        |
| 17:00-17:15  | A   | 626.48                            | 650.27                              |                                  |                                        |
| 17:00-17:15  | B   | 493.26                            | 501.86                              |                                  |                                        |
| 17:00-17:15  | C   | 1005.23                           | 1021.69                             |                                  |                                        |
| 17:15-17:30  | A   | 511.52                            | 530.94                              |                                  |                                        |
| 17:15-17:30  | B   | 402.74                            | 409.77                              |                                  |                                        |
| 17:15-17:30  | C   | 820.77                            | 834.21                              |                                  |                                        |
| 17:30-17:45  | A   | 428.37                            | 444.64                              |                                  |                                        |
| 17:30-17:45  | B   | 337.28                            | 343.16                              |                                  |                                        |
| 17:30-17:45  | C   | 687.35                            | 698.61                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      |   | To      |         |         |
|------|---|---------|---------|---------|
| From |   | A       | B       | C       |
|      | A | 0.000   | 72.000  | 497.000 |
|      | B | 84.000  | 0.000   | 364.000 |
|      | C | 613.000 | 300.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | A    | B    | C    |
|      | A | 0.00 | 0.13 | 0.87 |
|      | B | 0.19 | 0.00 | 0.81 |
|      | C | 0.67 | 0.33 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.093 | 1.030 |
|      | B  | 1.080 | 1.000 | 1.003 |
|      | C  | 1.019 | 1.011 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 9.3 | 3.0 |
|      | B  | 8.0 | 0.0 | 0.3 |
|      | C  | 1.9 | 1.1 | 0.0 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.75    | 27.21         | 2.90            | D       | 334.01                  | 501.02                        | 142.35                         | 17.05                      | 1.58                                 | 142.38                                   | 17.05                                |
| B-A    | 0.43    | 28.73         | 0.72            | D       | 77.08                   | 115.62                        | 36.38                          | 18.88                      | 0.40                                 | 36.38                                    | 18.88                                |
| C-A    | -       | -             | -               | -       | 562.50                  | 843.75                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.63    | 18.47         | 1.66            | C       | 275.29                  | 412.93                        | 94.79                          | 13.77                      | 1.05                                 | 94.81                                    | 13.78                                |
| A-B    | -       | -             | -               | -       | 66.07                   | 99.10                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 456.06                  | 684.08                        | -                              | -                          | -                                    | -                                        | -                                    |

### Main Results for each time segment

#### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 274.04                | 68.51                   | 270.88              | 0.00                       | 614.11            | 0.446 | 0.00              | 0.79            | 10.397    | B   |
| B-A    | 63.24                 | 15.81                   | 62.39               | 0.00                       | 357.12            | 0.177 | 0.00              | 0.21            | 12.182    | B   |
| C-A    | 461.50                | 115.37                  | 461.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 225.86                | 56.46                   | 223.33              | 0.00                       | 577.34            | 0.391 | 0.00              | 0.63            | 10.099    | B   |
| A-B    | 54.21                 | 13.55                   | 54.21               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 374.17                | 93.54                   | 374.17              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 327.23                | 81.81                   | 325.42              | 0.00                       | 582.32            | 0.562 | 0.79              | 1.24            | 13.913    | B   |
| B-A    | 75.51                 | 18.88                   | 75.08               | 0.00                       | 307.16            | 0.246 | 0.21              | 0.32            | 15.482    | C   |
| C-A    | 551.07                | 137.77                  | 551.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 269.69                | 67.42                   | 268.53              | 0.00                       | 555.23            | 0.486 | 0.63              | 0.92            | 12.503    | B   |
| A-B    | 64.73                 | 16.18                   | 64.73               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 446.79                | 111.70                  | 446.79              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 400.77                | 100.19                  | 394.75              | 0.00                       | 532.35            | 0.753 | 1.24              | 2.75            | 25.111    | D   |
| B-A    | 92.49                 | 23.12                   | 91.03               | 0.00                       | 221.50            | 0.418 | 0.32              | 0.68            | 27.296    | D   |
| C-A    | 674.93                | 168.73                  | 674.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 330.31                | 82.58                   | 327.52              | 0.00                       | 524.67            | 0.630 | 0.92              | 1.62            | 18.002    | C   |
| A-B    | 79.27                 | 19.82                   | 79.27               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 547.21                | 136.80                  | 547.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 400.77                | 100.19                  | 400.16              | 0.00                       | 530.97            | 0.755 | 2.75              | 2.90            | 27.205    | D   |
| B-A    | 92.49                 | 23.12                   | 92.35               | 0.00                       | 217.37            | 0.425 | 0.68              | 0.72            | 28.731    | D   |
| C-A    | 674.93                | 168.73                  | 674.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 330.31                | 82.58                   | 330.15              | 0.00                       | 524.67            | 0.630 | 1.62              | 1.66            | 18.465    | C   |
| A-B    | 79.27                 | 19.82                   | 79.27               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 547.21                | 136.80                  | 547.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 327.23                | 81.81                   | 333.50              | 0.00                       | 581.08            | 0.563 | 2.90              | 1.33            | 14.883    | B   |
| B-A    | 75.51                 | 18.88                   | 77.03               | 0.00                       | 304.26            | 0.248 | 0.72              | 0.34            | 15.945    | C   |
| C-A    | 551.07                | 137.77                  | 551.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 269.69                | 67.42                   | 272.44              | 0.00                       | 555.23            | 0.486 | 1.66              | 0.97            | 12.851    | B   |
| A-B    | 64.73                 | 16.18                   | 64.73               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 446.79                | 111.70                  | 446.79              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 274.04                | 68.51                   | 276.08              | 0.00                       | 613.38            | 0.447 | 1.33              | 0.82            | 10.735    | B   |
| B-A    | 63.24                 | 15.81                   | 63.71               | 0.00                       | 355.54            | 0.178 | 0.34              | 0.22            | 12.357    | B   |
| C-A    | 461.50                | 115.37                  | 461.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 225.86                | 56.46                   | 227.12              | 0.00                       | 577.34            | 0.391 | 0.97              | 0.65            | 10.315    | B   |
| A-B    | 54.21                 | 13.55                   | 54.21               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 374.17                | 93.54                   | 374.17              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 11.15                          | 0.74                                 | 10.397                                 | B                             | B                           |
| B-A    | 3.01                           | 0.20                                 | 12.182                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 8.95                           | 0.60                                 | 10.099                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 17.57                          | 1.17                                 | 13.913                                 | B                             | B                           |
| B-A    | 4.58                           | 0.31                                 | 15.482                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 13.18                          | 0.88                                 | 12.503                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 36.31                          | 2.42                                 | 25.111                                 | D                             | C                           |
| B-A    | 9.39                           | 0.63                                 | 27.296                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 22.42                          | 1.49                                 | 18.002                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 42.59                          | 2.84                                 | 27.205                                 | D                             | C                           |
| B-A    | 10.56                          | 0.70                                 | 28.731                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 24.60                          | 1.64                                 | 18.465                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 21.75                          | 1.45                                 | 14.883                                 | B                             | B                           |
| B-A    | 5.40                           | 0.36                                 | 15.945                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 15.41                          | 1.03                                 | 12.851                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 12.98                          | 0.87                                 | 10.735                                 | B                             | B                           |
| B-A    | 3.44                           | 0.23                                 | 12.357                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 10.23                          | 0.68                                 | 10.315                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM | Forecast Background + EA2 + EA1N Construction (A12(S)) 2023 | AM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 37.08              | E            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 619.747            | 0.088         | 0.223         | 0.140         | 0.319         |
| 1        | B-C    | 760.204            | 0.111         | 0.282         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 754.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 313.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 776.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 567.65                            | 595.20                              |                                  |                                        |
| 07:15-07:30  | B   | 235.64                            | 251.21                              |                                  |                                        |
| 07:15-07:30  | C   | 584.21                            | 625.69                              |                                  |                                        |
| 07:30-07:45  | A   | 677.83                            | 710.73                              |                                  |                                        |
| 07:30-07:45  | B   | 281.38                            | 299.97                              |                                  |                                        |
| 07:30-07:45  | C   | 697.61                            | 747.13                              |                                  |                                        |
| 07:45-08:00  | A   | 830.17                            | 870.46                              |                                  |                                        |
| 07:45-08:00  | B   | 344.62                            | 367.38                              |                                  |                                        |
| 07:45-08:00  | C   | 854.39                            | 915.04                              |                                  |                                        |
| 08:00-08:15  | A   | 830.17                            | 870.46                              |                                  |                                        |
| 08:00-08:15  | B   | 344.62                            | 367.38                              |                                  |                                        |
| 08:00-08:15  | C   | 854.39                            | 915.04                              |                                  |                                        |
| 08:15-08:30  | A   | 677.83                            | 710.73                              |                                  |                                        |
| 08:15-08:30  | B   | 281.38                            | 299.97                              |                                  |                                        |
| 08:15-08:30  | C   | 697.61                            | 747.13                              |                                  |                                        |
| 08:30-08:45  | A   | 567.65                            | 595.20                              |                                  |                                        |
| 08:30-08:45  | B   | 235.64                            | 251.21                              |                                  |                                        |
| 08:30-08:45  | C   | 584.21                            | 625.69                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      |   | To      |         |         |
|------|---|---------|---------|---------|
| From |   | A       | B       | C       |
|      | A | 0.000   | 89.000  | 665.000 |
|      | B | 44.000  | 0.000   | 269.000 |
|      | C | 430.000 | 346.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | A    | B    | C    |
|      | A | 0.00 | 0.12 | 0.88 |
|      | B | 0.14 | 0.00 | 0.86 |
|      | C | 0.55 | 0.45 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.060 | 1.047 |
|      | B  | 1.048 | 1.000 | 1.069 |
|      | C  | 1.075 | 1.066 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 6.0 | 4.7 |
|      | B  | 4.8 | 0.0 | 6.9 |
|      | C  | 7.5 | 6.6 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.63    | 20.66         | 1.66            | C       | 246.84                  | 370.26                        | 90.45                          | 14.66                      | 1.01                                 | 90.47                                    | 14.66                                |
| B-A    | 0.24    | 23.21         | 0.31            | C       | 40.38                   | 60.56                         | 16.81                          | 16.65                      | 0.19                                 | 16.81                                    | 16.66                                |
| C-A    | -       | -             | -               | -       | 394.58                  | 591.86                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.86    | 51.61         | 5.09            | F       | 317.50                  | 476.24                        | 216.91                         | 27.33                      | 2.41                                 | 216.97                                   | 27.34                                |
| A-B    | -       | -             | -               | -       | 81.67                   | 122.50                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 610.22                  | 915.32                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 202.52                | 50.63                   | 200.24              | 0.00                       | 551.90            | 0.367 | 0.00              | 0.57            | 10.174    | B   |
| B-A    | 33.13                 | 8.28                    | 32.70               | 0.00                       | 340.66            | 0.097 | 0.00              | 0.11            | 11.676    | B   |
| C-A    | 323.73                | 80.93                   | 323.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 260.49                | 65.12                   | 256.46              | 0.00                       | 510.97            | 0.510 | 0.00              | 1.01            | 13.935    | B   |
| A-B    | 67.00                 | 16.75                   | 67.00               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 500.65                | 125.16                  | 500.65              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 241.83                | 60.46                   | 240.70              | 0.00                       | 518.93            | 0.466 | 0.57              | 0.85            | 12.884    | B   |
| B-A    | 39.56                 | 9.89                    | 39.35               | 0.00                       | 287.46            | 0.138 | 0.11              | 0.16            | 14.498    | B   |
| C-A    | 386.56                | 96.64                   | 386.56              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 311.05                | 77.76                   | 308.24              | 0.00                       | 482.91            | 0.644 | 1.01              | 1.71            | 20.275    | C   |
| A-B    | 80.01                 | 20.00                   | 80.01               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 597.82                | 149.46                  | 597.82              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 296.17                | 74.04                   | 293.15              | 0.00                       | 470.55            | 0.629 | 0.85              | 1.61            | 19.953    | C   |
| B-A    | 48.44                 | 12.11                   | 47.89               | 0.00                       | 207.70            | 0.233 | 0.16              | 0.29            | 22.450    | C   |
| C-A    | 473.44                | 118.36                  | 473.44              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 380.95                | 95.24                   | 369.62              | 0.00                       | 444.10            | 0.858 | 1.71              | 4.54            | 42.932    | E   |
| A-B    | 97.99                 | 24.50                   | 97.99               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 732.18                | 183.04                  | 732.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 296.17                | 74.04                   | 295.98              | 0.00                       | 469.71            | 0.631 | 1.61              | 1.66            | 20.662    | C   |
| B-A    | 48.44                 | 12.11                   | 48.40               | 0.00                       | 203.39            | 0.238 | 0.29              | 0.31            | 23.214    | C   |
| C-A    | 473.44                | 118.36                  | 473.44              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 380.95                | 95.24                   | 378.77              | 0.00                       | 444.10            | 0.858 | 4.54              | 5.09            | 51.609    | F   |
| A-B    | 97.99                 | 24.50                   | 97.99               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 732.18                | 183.04                  | 732.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 241.83                | 60.46                   | 244.85              | 0.00                       | 518.20            | 0.467 | 1.66              | 0.90            | 13.312    | B   |
| B-A    | 39.56                 | 9.89                    | 40.11               | 0.00                       | 281.77            | 0.140 | 0.31              | 0.17            | 14.932    | B   |
| C-A    | 386.56                | 96.64                   | 386.56              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 311.05                | 77.76                   | 323.69              | 0.00                       | 482.91            | 0.644 | 5.08              | 1.92            | 24.145    | C   |
| A-B    | 80.01                 | 20.00                   | 80.01               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 597.82                | 149.46                  | 597.82              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 202.52                | 50.63                   | 203.75              | 0.00                       | 551.52            | 0.367 | 0.90              | 0.59            | 10.389    | B   |
| B-A    | 33.13                 | 8.28                    | 33.35               | 0.00                       | 338.00            | 0.098 | 0.17              | 0.11            | 11.827    | B   |
| C-A    | 323.73                | 80.93                   | 323.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 260.49                | 65.12                   | 263.89              | 0.00                       | 510.97            | 0.510 | 1.92              | 1.07            | 14.764    | B   |
| A-B    | 67.00                 | 16.75                   | 67.00               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 500.65                | 125.16                  | 500.65              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 8.09                           | 0.54                                 | 10.174                                 | B                             | B                           |
| B-A    | 1.52                           | 0.10                                 | 11.676                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 13.96                          | 0.93                                 | 13.935                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 12.17                          | 0.81                                 | 12.884                                 | B                             | B                           |
| B-A    | 2.26                           | 0.15                                 | 14.498                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 23.59                          | 1.57                                 | 20.275                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 22.10                          | 1.47                                 | 19.953                                 | C                             | B                           |
| B-A    | 4.15                           | 0.28                                 | 22.450                                 | C                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 55.43                          | 3.70                                 | 42.932                                 | E                             | D                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 24.54                          | 1.64                                 | 20.662                                 | C                             | C                           |
| B-A    | 4.53                           | 0.30                                 | 23.214                                 | C                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 72.83                          | 4.86                                 | 51.609                                 | F                             | D                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 14.32                          | 0.95                                 | 13.312                                 | B                             | B                           |
| B-A    | 2.63                           | 0.18                                 | 14.932                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 33.91                          | 2.26                                 | 24.145                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 9.24                           | 0.62                                 | 10.389                                 | B                             | B                           |
| B-A    | 1.72                           | 0.11                                 | 11.827                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 17.19                          | 1.15                                 | 14.764                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM | Forecast Background + EA2 + EA1N Construction (A12(S)) 2023 | PM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 30.10              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 619.747            | 0.088         | 0.223         | 0.140         | 0.319         |
| 1        | B-C    | 760.204            | 0.111         | 0.282         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 566.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 469.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 927.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 426.11                            | 440.04                              |                                  |                                        |
| 16:15-16:30  | B   | 353.09                            | 361.35                              |                                  |                                        |
| 16:15-16:30  | C   | 697.89                            | 719.54                              |                                  |                                        |
| 16:30-16:45  | A   | 508.82                            | 525.45                              |                                  |                                        |
| 16:30-16:45  | B   | 421.62                            | 431.49                              |                                  |                                        |
| 16:30-16:45  | C   | 833.35                            | 859.20                              |                                  |                                        |
| 16:45-17:00  | A   | 623.18                            | 643.55                              |                                  |                                        |
| 16:45-17:00  | B   | 516.38                            | 528.46                              |                                  |                                        |
| 16:45-17:00  | C   | 1020.65                           | 1052.31                             |                                  |                                        |
| 17:00-17:15  | A   | 623.18                            | 643.55                              |                                  |                                        |
| 17:00-17:15  | B   | 516.38                            | 528.46                              |                                  |                                        |
| 17:00-17:15  | C   | 1020.65                           | 1052.31                             |                                  |                                        |
| 17:15-17:30  | A   | 508.82                            | 525.45                              |                                  |                                        |
| 17:15-17:30  | B   | 421.62                            | 431.49                              |                                  |                                        |
| 17:15-17:30  | C   | 833.35                            | 859.20                              |                                  |                                        |
| 17:30-17:45  | A   | 426.11                            | 440.04                              |                                  |                                        |
| 17:30-17:45  | B   | 353.09                            | 361.35                              |                                  |                                        |
| 17:30-17:45  | C   | 697.89                            | 719.54                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      |   | To      |         |         |
|------|---|---------|---------|---------|
| From |   | A       | B       | C       |
|      | A | 0.000   | 66.000  | 500.000 |
|      | B | 77.000  | 0.000   | 392.000 |
|      | C | 617.000 | 310.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | A    | B    | C    |
|      | A | 0.00 | 0.12 | 0.88 |
|      | B | 0.16 | 0.00 | 0.84 |
|      | C | 0.67 | 0.33 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.037 |
|      | B  | 1.000 | 1.000 | 1.028 |
|      | C  | 1.025 | 1.043 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 3.7 |
|      | B  | 0.0 | 0.0 | 2.8 |
|      | C  | 2.5 | 4.3 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.82    | 36.65         | 4.14            | E       | 359.71                  | 539.56                        | 186.70                         | 20.76                      | 2.07                                 | 186.75                                   | 20.77                                |
| B-A    | 0.44    | 33.14         | 0.75            | D       | 70.66                   | 105.98                        | 34.49                          | 19.53                      | 0.38                                 | 34.50                                    | 19.53                                |
| C-A    | -       | -             | -               | -       | 566.17                  | 849.26                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.67    | 21.20         | 1.95            | C       | 284.46                  | 426.69                        | 108.63                         | 15.28                      | 1.21                                 | 108.66                                   | 15.28                                |
| A-B    | -       | -             | -               | -       | 60.56                   | 90.84                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 458.81                  | 688.21                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 295.12                | 73.78                   | 291.38              | 0.00                       | 603.33            | 0.489 | 0.00              | 0.93            | 11.410    | B   |
| B-A    | 57.97                 | 14.49                   | 57.25               | 0.00                       | 375.71            | 0.154 | 0.00              | 0.18            | 11.280    | B   |
| C-A    | 464.51                | 116.13                  | 464.51              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 233.38                | 58.35                   | 230.59              | 0.00                       | 560.77            | 0.416 | 0.00              | 0.70            | 10.815    | B   |
| A-B    | 49.69                 | 12.42                   | 49.69               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 376.43                | 94.11                   | 376.43              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 352.40                | 88.10                   | 350.02              | 0.00                       | 573.41            | 0.615 | 0.93              | 1.53            | 15.940    | C   |
| B-A    | 69.22                 | 17.31                   | 68.83               | 0.00                       | 314.60            | 0.220 | 0.18              | 0.28            | 14.624    | B   |
| C-A    | 554.67                | 138.67                  | 554.67              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 278.68                | 69.67                   | 277.33              | 0.00                       | 539.56            | 0.517 | 0.70              | 1.04            | 13.653    | B   |
| A-B    | 59.33                 | 14.83                   | 59.33               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 449.49                | 112.37                  | 449.49              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 431.60                | 107.90                  | 422.50              | 0.00                       | 526.86            | 0.819 | 1.53              | 3.80            | 32.000    | D   |
| B-A    | 84.78                 | 21.19                   | 83.14               | 0.00                       | 201.88            | 0.420 | 0.28              | 0.69            | 29.922    | D   |
| C-A    | 679.33                | 169.83                  | 679.33              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 341.32                | 85.33                   | 337.88              | 0.00                       | 510.24            | 0.669 | 1.04              | 1.90            | 20.474    | C   |
| A-B    | 72.67                 | 18.17                   | 72.67               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 550.51                | 137.63                  | 550.51              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 431.60                | 107.90                  | 430.25              | 0.00                       | 525.44            | 0.821 | 3.80              | 4.14            | 36.655    | E   |
| B-A    | 84.78                 | 21.19                   | 84.51               | 0.00                       | 192.69            | 0.440 | 0.69              | 0.75            | 33.144    | D   |
| C-A    | 679.33                | 169.83                  | 679.33              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 341.32                | 85.33                   | 341.09              | 0.00                       | 510.24            | 0.669 | 1.90              | 1.95            | 21.202    | C   |
| A-B    | 72.67                 | 18.17                   | 72.67               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 550.51                | 137.63                  | 550.51              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 352.40                | 88.10                   | 362.25              | 0.00                       | 572.11            | 0.616 | 4.14              | 1.68            | 17.881    | C   |
| B-A    | 69.22                 | 17.31                   | 71.05               | 0.00                       | 308.50            | 0.224 | 0.75              | 0.30            | 15.270    | C   |
| C-A    | 554.67                | 138.67                  | 554.67              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 278.68                | 69.67                   | 282.10              | 0.00                       | 539.56            | 0.517 | 1.95              | 1.10            | 14.159    | B   |
| A-B    | 59.33                 | 14.83                   | 59.33               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 449.49                | 112.37                  | 449.49              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 295.12                | 73.78                   | 297.89              | 0.00                       | 602.74            | 0.490 | 1.68              | 0.98            | 11.913    | B   |
| B-A    | 57.97                 | 14.49                   | 58.41               | 0.00                       | 373.28            | 0.155 | 0.30              | 0.19            | 11.447    | B   |
| C-A    | 464.51                | 116.13                  | 464.51              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 233.38                | 58.35                   | 234.88              | 0.00                       | 560.77            | 0.416 | 1.10              | 0.73            | 11.096    | B   |
| A-B    | 49.69                 | 12.42                   | 49.69               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 376.43                | 94.11                   | 376.43              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 13.10                          | 0.87                                 | 11.410                                 | B                             | B                           |
| B-A    | 2.57                           | 0.17                                 | 11.280                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 9.87                           | 0.66                                 | 10.815                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 21.40                          | 1.43                                 | 15.940                                 | C                             | B                           |
| B-A    | 3.98                           | 0.27                                 | 14.624                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 14.78                          | 0.99                                 | 13.653                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 48.26                          | 3.22                                 | 32.000                                 | D                             | C                           |
| B-A    | 9.34                           | 0.62                                 | 29.922                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 25.99                          | 1.73                                 | 20.474                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 60.04                          | 4.00                                 | 36.655                                 | E                             | D                           |
| B-A    | 10.95                          | 0.73                                 | 33.144                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 28.97                          | 1.93                                 | 21.202                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 28.30                          | 1.89                                 | 17.881                                 | C                             | B                           |
| B-A    | 4.75                           | 0.32                                 | 15.270                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 17.62                          | 1.17                                 | 14.159                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 15.59                          | 1.04                                 | 11.913                                 | B                             | B                           |
| B-A    | 2.91                           | 0.19                                 | 11.447                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 11.42                          | 0.76                                 | 11.096                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM | Forecast Background + EA2 + EA1N Construction (A12(N)) 2023 | AM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 30.97              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 620.027            | 0.088         | 0.223         | 0.140         | 0.319         |
| 1        | B-C    | 759.911            | 0.111         | 0.282         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 758.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 312.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 762.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 570.66                            | 601.86                              |                                  |                                        |
| 07:15-07:30  | B   | 234.89                            | 249.30                              |                                  |                                        |
| 07:15-07:30  | C   | 573.67                            | 604.77                              |                                  |                                        |
| 07:30-07:45  | A   | 681.43                            | 718.68                              |                                  |                                        |
| 07:30-07:45  | B   | 280.48                            | 297.69                              |                                  |                                        |
| 07:30-07:45  | C   | 685.02                            | 722.16                              |                                  |                                        |
| 07:45-08:00  | A   | 834.57                            | 880.20                              |                                  |                                        |
| 07:45-08:00  | B   | 343.52                            | 364.60                              |                                  |                                        |
| 07:45-08:00  | C   | 838.98                            | 884.46                              |                                  |                                        |
| 08:00-08:15  | A   | 834.57                            | 880.20                              |                                  |                                        |
| 08:00-08:15  | B   | 343.52                            | 364.60                              |                                  |                                        |
| 08:00-08:15  | C   | 838.98                            | 884.46                              |                                  |                                        |
| 08:15-08:30  | A   | 681.43                            | 718.68                              |                                  |                                        |
| 08:15-08:30  | B   | 280.48                            | 297.69                              |                                  |                                        |
| 08:15-08:30  | C   | 685.02                            | 722.16                              |                                  |                                        |
| 08:30-08:45  | A   | 570.66                            | 601.86                              |                                  |                                        |
| 08:30-08:45  | B   | 234.89                            | 249.30                              |                                  |                                        |
| 08:30-08:45  | C   | 573.67                            | 604.77                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 97.000  | 661.000 |
|      | B  | 53.000  | 0.000   | 259.000 |
|      | C  | 426.000 | 336.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.13 | 0.87 |
|      | B  | 0.17 | 0.00 | 0.83 |
|      | C  | 0.56 | 0.44 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

| From | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
|      | A  | 1.000 | 1.141 | 1.042 |
|      | B  | 1.200 | 1.000 | 1.033 |
|      | C  | 1.067 | 1.038 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

| From | To |      |      |     |
|------|----|------|------|-----|
|      |    | A    | B    | C   |
|      | A  | 0.0  | 14.1 | 4.2 |
|      | B  | 20.0 | 0.0  | 3.3 |
|      | C  | 6.7  | 3.8  | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.60    | 18.82         | 1.46            | C       | 237.66                  | 356.49                        | 80.75                          | 13.59                      | 0.90                                 | 80.77                                    | 13.59                                |
| B-A    | 0.31    | 27.09         | 0.43            | D       | 48.63                   | 72.95                         | 23.57                          | 19.38                      | 0.26                                 | 23.57                                    | 19.39                                |
| C-A    | -       | -             | -               | -       | 390.91                  | 586.36                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.82    | 41.00         | 3.96            | E       | 308.32                  | 462.48                        | 180.66                         | 23.44                      | 2.01                                 | 180.72                                   | 23.45                                |
| A-B    | -       | -             | -               | -       | 89.01                   | 133.51                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 606.55                  | 909.82                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 194.99                | 48.75                   | 192.92              | 0.00                       | 566.05            | 0.344 | 0.00              | 0.52            | 9.597     | A   |
| B-A    | 39.90                 | 9.98                    | 39.31               | 0.00                       | 303.21            | 0.132 | 0.00              | 0.15            | 13.612    | B   |
| C-A    | 320.72                | 80.18                   | 320.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 252.96                | 63.24                   | 249.32              | 0.00                       | 523.10            | 0.484 | 0.00              | 0.91            | 12.984    | B   |
| A-B    | 73.03                 | 18.26                   | 73.03               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 497.64                | 124.41                  | 497.64              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 232.84                | 58.21                   | 231.84              | 0.00                       | 530.27            | 0.439 | 0.52              | 0.77            | 12.022    | B   |
| B-A    | 47.65                 | 11.91                   | 47.36               | 0.00                       | 258.96            | 0.184 | 0.15              | 0.22            | 16.989    | C   |
| C-A    | 382.97                | 95.74                   | 382.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 302.06                | 75.51                   | 299.70              | 0.00                       | 493.95            | 0.612 | 0.91              | 1.50            | 18.302    | C   |
| A-B    | 87.20                 | 21.80                   | 87.20               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 594.23                | 148.56                  | 594.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 285.16                | 71.29                   | 282.55              | 0.00                       | 476.94            | 0.598 | 0.77              | 1.42            | 18.273    | C   |
| B-A    | 58.35                 | 14.59                   | 57.58               | 0.00                       | 193.85            | 0.301 | 0.22              | 0.41            | 26.272    | D   |
| C-A    | 469.03                | 117.26                  | 469.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 369.94                | 92.49                   | 361.33              | 0.00                       | 453.65            | 0.815 | 1.50              | 3.65            | 36.001    | E   |
| A-B    | 106.80                | 26.70                   | 106.80              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 727.77                | 181.94                  | 727.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 285.16                | 71.29                   | 285.01              | 0.00                       | 475.83            | 0.599 | 1.42              | 1.46            | 18.824    | C   |
| B-A    | 58.35                 | 14.59                   | 58.30               | 0.00                       | 191.08            | 0.305 | 0.41              | 0.43            | 27.086    | D   |
| C-A    | 469.03                | 117.26                  | 469.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 369.94                | 92.49                   | 368.70              | 0.00                       | 453.65            | 0.815 | 3.65              | 3.96            | 40.999    | E   |
| A-B    | 106.80                | 26.70                   | 106.80              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 727.77                | 181.94                  | 727.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 232.84                | 58.21                   | 235.45              | 0.00                       | 529.25            | 0.440 | 1.46              | 0.80            | 12.357    | B   |
| B-A    | 47.65                 | 11.91                   | 48.42               | 0.00                       | 255.40            | 0.187 | 0.43              | 0.23            | 17.457    | C   |
| C-A    | 382.97                | 95.74                   | 382.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 302.06                | 75.51                   | 311.29              | 0.00                       | 493.95            | 0.612 | 3.96              | 1.65            | 20.595    | C   |
| A-B    | 87.20                 | 21.80                   | 87.20               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 594.23                | 148.56                  | 594.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 194.99                | 48.75                   | 196.06              | 0.00                       | 565.42            | 0.345 | 0.80              | 0.53            | 9.776     | A   |
| B-A    | 39.90                 | 9.98                    | 40.22               | 0.00                       | 301.34            | 0.132 | 0.23              | 0.16            | 13.805    | B   |
| C-A    | 320.72                | 80.18                   | 320.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 252.96                | 63.24                   | 255.73              | 0.00                       | 523.10            | 0.484 | 1.65              | 0.96            | 13.601    | B   |
| A-B    | 73.03                 | 18.26                   | 73.03               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 497.64                | 124.41                  | 497.64              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 7.37                           | 0.49                                 | 9.597                                  | A                             | A                           |
| B-A    | 2.11                           | 0.14                                 | 13.612                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 12.70                          | 0.85                                 | 12.984                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 10.98                          | 0.73                                 | 12.022                                 | B                             | B                           |
| B-A    | 3.17                           | 0.21                                 | 16.989                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 20.90                          | 1.39                                 | 18.302                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 19.67                          | 1.31                                 | 18.273                                 | C                             | B                           |
| B-A    | 5.78                           | 0.39                                 | 26.272                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 46.16                          | 3.08                                 | 36.001                                 | E                             | D                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 21.63                          | 1.44                                 | 18.824                                 | C                             | B                           |
| B-A    | 6.35                           | 0.42                                 | 27.086                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 57.53                          | 3.84                                 | 40.999                                 | E                             | D                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 12.76                          | 0.85                                 | 12.357                                 | B                             | B                           |
| B-A    | 3.73                           | 0.25                                 | 17.457                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 28.04                          | 1.87                                 | 20.595                                 | C                             | C                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 8.34                           | 0.56                                 | 9.776                                  | A                             | A                           |
| B-A    | 2.43                           | 0.16                                 | 13.805                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 15.33                          | 1.02                                 | 13.601                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM | Forecast Background + EA2 + EA1N Construction (A12(N)) 2023 | PM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 1        | A12, A1094 | T-Junction    | Two-way              | A,B,C     |                    | 27.47              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | A1094      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.00                     | ✓                          | 10.00                               | ✓                  | 3.00                     | 119.00                        |         |                      |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 9.37            | 8.25             | 7.36             | 6.16             | ✓                     | 3.00               | 32                     | 15                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 1        | B-A    | 620.461            | 0.088         | 0.223         | 0.141         | 0.319         |
| 1        | B-C    | 759.457            | 0.111         | 0.281         | -             | -             |
| 1        | C-B    | 698.851            | 0.259         | 0.259         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |



# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 571.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 468.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 913.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 429.88                            | 447.45                              |                                  |                                        |
| 16:15-16:30  | B   | 352.33                            | 359.61                              |                                  |                                        |
| 16:15-16:30  | C   | 687.35                            | 698.61                              |                                  |                                        |
| 16:30-16:45  | A   | 513.32                            | 534.30                              |                                  |                                        |
| 16:30-16:45  | B   | 420.72                            | 429.41                              |                                  |                                        |
| 16:30-16:45  | C   | 820.77                            | 834.21                              |                                  |                                        |
| 16:45-17:00  | A   | 628.68                            | 654.39                              |                                  |                                        |
| 16:45-17:00  | B   | 515.28                            | 525.91                              |                                  |                                        |
| 16:45-17:00  | C   | 1005.23                           | 1021.69                             |                                  |                                        |
| 17:00-17:15  | A   | 628.68                            | 654.39                              |                                  |                                        |
| 17:00-17:15  | B   | 515.28                            | 525.91                              |                                  |                                        |
| 17:00-17:15  | C   | 1005.23                           | 1021.69                             |                                  |                                        |
| 17:15-17:30  | A   | 513.32                            | 534.30                              |                                  |                                        |
| 17:15-17:30  | B   | 420.72                            | 429.41                              |                                  |                                        |
| 17:15-17:30  | C   | 820.77                            | 834.21                              |                                  |                                        |
| 17:30-17:45  | A   | 429.88                            | 447.45                              |                                  |                                        |
| 17:30-17:45  | B   | 352.33                            | 359.61                              |                                  |                                        |
| 17:30-17:45  | C   | 687.35                            | 698.61                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 1 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 74.000  | 497.000 |
|      | B  | 86.000  | 0.000   | 382.000 |
|      | C  | 613.000 | 300.000 | 0.000   |

## Turning Proportions (Veh) - Junction 1 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.13 | 0.87 |
|      | B  | 0.18 | 0.00 | 0.82 |
|      | C  | 0.67 | 0.33 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 1 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.114 | 1.030 |
|      | B  | 1.099 | 1.000 | 1.003 |
|      | C  | 1.019 | 1.011 | 1.000 |

## Heavy Vehicle Percentages - Junction 1 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 11.4 | 3.0 |
|      | B  | 9.9 | 0.0  | 0.3 |
|      | C  | 1.9 | 1.1  | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.80    | 32.83         | 3.63            | D       | 350.53                  | 525.79                        | 167.83                         | 19.15                      | 1.86                                 | 167.87                                   | 19.16                                |
| B-A    | 0.48    | 34.38         | 0.87            | D       | 78.92                   | 118.37                        | 41.29                          | 20.93                      | 0.46                                 | 41.30                                    | 20.93                                |
| C-A    | -       | -             | -               | -       | 562.50                  | 843.75                        | -                              | -                          | -                                    | -                                        | -                                    |
| C-B    | 0.63    | 18.54         | 1.66            | C       | 275.29                  | 412.93                        | 95.15                          | 13.83                      | 1.06                                 | 95.17                                    | 13.83                                |
| A-B    | -       | -             | -               | -       | 67.90                   | 101.86                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 456.06                  | 684.08                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 287.59                | 71.90                   | 284.13              | 0.00                       | 612.64            | 0.469 | 0.00              | 0.86            | 10.849    | B   |
| B-A    | 64.75                 | 16.19                   | 63.85               | 0.00                       | 349.46            | 0.185 | 0.00              | 0.22            | 12.567    | B   |
| C-A    | 461.50                | 115.37                  | 461.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 225.86                | 56.46                   | 223.33              | 0.00                       | 576.62            | 0.392 | 0.00              | 0.63            | 10.120    | B   |
| A-B    | 55.71                 | 13.93                   | 55.71               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 374.17                | 93.54                   | 374.17              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 343.41                | 85.85                   | 341.29              | 0.00                       | 580.26            | 0.592 | 0.86              | 1.40            | 14.928    | B   |
| B-A    | 77.31                 | 19.33                   | 76.84               | 0.00                       | 297.99            | 0.259 | 0.22              | 0.34            | 16.242    | C   |
| C-A    | 551.07                | 137.77                  | 551.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 269.69                | 67.42                   | 268.53              | 0.00                       | 554.37            | 0.486 | 0.63              | 0.92            | 12.541    | B   |
| A-B    | 66.52                 | 16.63                   | 66.52               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 446.79                | 111.70                  | 446.79              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 420.59                | 105.15                  | 412.68              | 0.00                       | 528.63            | 0.796 | 1.40              | 3.37            | 29.221    | D   |
| B-A    | 94.69                 | 23.67                   | 92.83               | 0.00                       | 204.94            | 0.462 | 0.34              | 0.81            | 31.605    | D   |
| C-A    | 674.93                | 168.73                  | 674.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 330.31                | 82.58                   | 327.50              | 0.00                       | 523.61            | 0.631 | 0.92              | 1.62            | 18.093    | C   |
| A-B    | 81.48                 | 20.37                   | 81.48               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 547.21                | 136.80                  | 547.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 420.59                | 105.15                  | 419.54              | 0.00                       | 526.78            | 0.798 | 3.37              | 3.63            | 32.833    | D   |
| B-A    | 94.69                 | 23.67                   | 94.44               | 0.00                       | 198.68            | 0.477 | 0.81              | 0.87            | 34.381    | D   |
| C-A    | 674.93                | 168.73                  | 674.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 330.31                | 82.58                   | 330.15              | 0.00                       | 523.61            | 0.631 | 1.62              | 1.66            | 18.536    | C   |
| A-B    | 81.48                 | 20.37                   | 81.48               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 547.21                | 136.80                  | 547.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 343.41                | 85.85                   | 351.87              | 0.00                       | 578.65            | 0.593 | 3.63              | 1.52            | 16.419    | C   |
| B-A    | 77.31                 | 19.33                   | 79.33               | 0.00                       | 294.03            | 0.263 | 0.87              | 0.37            | 16.917    | C   |
| C-A    | 551.07                | 137.77                  | 551.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 269.69                | 67.42                   | 272.46              | 0.00                       | 554.37            | 0.486 | 1.66              | 0.97            | 12.890    | B   |
| A-B    | 66.52                 | 16.63                   | 66.52               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 446.79                | 111.70                  | 446.79              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 287.59                | 71.90                   | 290.04              | 0.00                       | 611.85            | 0.470 | 1.52              | 0.91            | 11.271    | B   |
| B-A    | 64.75                 | 16.19                   | 65.28               | 0.00                       | 347.72            | 0.186 | 0.37              | 0.23            | 12.768    | B   |
| C-A    | 461.50                | 115.37                  | 461.50              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| C-B    | 225.86                | 56.46                   | 227.12              | 0.00                       | 576.62            | 0.392 | 0.97              | 0.66            | 10.339    | B   |
| A-B    | 55.71                 | 13.93                   | 55.71               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 374.17                | 93.54                   | 374.17              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 12.17                          | 0.81                                 | 10.849                                 | B                             | B                           |
| B-A    | 3.18                           | 0.21                                 | 12.567                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 8.97                           | 0.60                                 | 10.120                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 19.65                          | 1.31                                 | 14.928                                 | B                             | B                           |
| B-A    | 4.90                           | 0.33                                 | 16.242                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 13.22                          | 0.88                                 | 12.541                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 43.46                          | 2.90                                 | 29.221                                 | D                             | C                           |
| B-A    | 10.95                          | 0.73                                 | 31.605                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 22.52                          | 1.50                                 | 18.093                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 52.94                          | 3.53                                 | 32.833                                 | D                             | C                           |
| B-A    | 12.72                          | 0.85                                 | 34.381                                 | D                             | C                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 24.72                          | 1.65                                 | 18.536                                 | C                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 25.28                          | 1.69                                 | 16.419                                 | C                             | B                           |
| B-A    | 5.90                           | 0.39                                 | 16.917                                 | C                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 15.46                          | 1.03                                 | 12.890                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

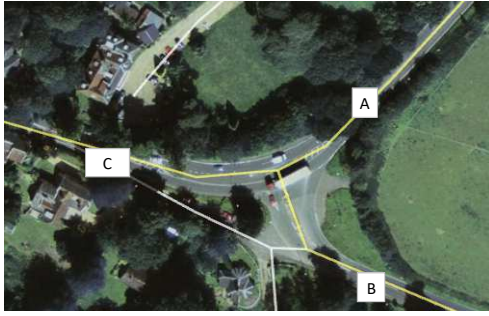
### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 14.34                          | 0.96                                 | 11.271                                 | B                             | B                           |
| B-A    | 3.64                           | 0.24                                 | 12.768                                 | B                             | B                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| C-B    | 10.25                          | 0.68                                 | 10.339                                 | B                             | B                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

# **East Anglia TWO Offshore Windfarm**

Junction 2

## Junction 2 - A12 / B1122 Junction



### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12       |
| 1    | B   | B1122     |
| 2    | C   | A12       |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

### AM Peak Traffic Thursday 6th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 88  | 485 | 573    |
| B       | 65  | 0   | 66  | 131    |
| C       | 372 | 75  | 0   | 447    |
| Totals  | 437 | 163 | 551 | 1151   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 28 | 35     |
| B       | 4  | 0 | 2  | 6      |
| C       | 21 | 0 | 0  | 21     |
| Totals  | 25 | 7 | 30 | 62     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 95  | 513 | 608    |
| B       | 69  | 0   | 68  | 137    |
| C       | 393 | 75  | 0   | 468    |
| Totals  | 462 | 170 | 581 | 1213   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

### PM Peak Traffic Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 63  | 466 | 529    |
| B       | 72  | 0   | 87  | 159    |
| C       | 515 | 46  | 0   | 561    |
| Totals  | 587 | 109 | 553 | 1249   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 19 | 20     |
| B       | 2  | 0 | 1  | 3      |
| C       | 13 | 0 | 0  | 13     |
| Totals  | 15 | 1 | 20 | 36     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 64  | 485 | 549    |
| B       | 74  | 0   | 88  | 162    |
| C       | 528 | 46  | 0   | 574    |
| Totals  | 602 | 110 | 573 | 1285   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 93  | 513 | 606    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 79  | 0   | 473    |
| Totals  | 462 | 172 | 583 | 1218   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 30 | 37     |
| B       | 4  | 0 | 2  | 6      |
| C       | 22 | 0 | 0  | 22     |
| Totals  | 26 | 7 | 32 | 66     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 100 | 543 | 643    |
| B       | 73  | 0   | 72  | 145    |
| C       | 416 | 79  | 0   | 495    |
| Totals  | 489 | 180 | 615 | 1283   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 76  | 0   | 92  | 168    |
| C       | 545 | 49  | 0   | 594    |
| Totals  | 622 | 115 | 586 | 1322   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 20 | 21     |
| B       | 2  | 0 | 1  | 3      |
| C       | 14 | 0 | 0  | 14     |
| Totals  | 16 | 1 | 21 | 38     |

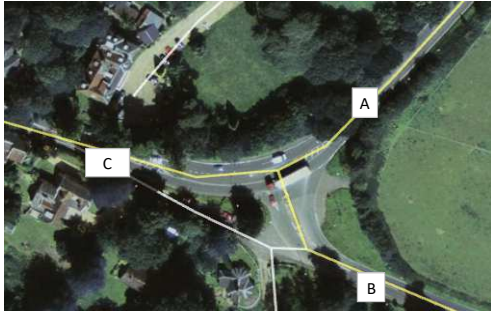
### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 68  | 514 | 581    |
| B       | 78  | 0   | 93  | 172    |
| C       | 559 | 49  | 0   | 608    |
| Totals  | 637 | 116 | 607 | 1361   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

# Junction 2 - A12 / B1122 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12       |
| 1    | B   | B1122     |
| 2    | C   | A12       |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## EA2 Construction Traffic (2023) 100% HGV Origin from A12 South

### AM Peak Traffic

#### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 63 | 6 | 70     |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 9  | 0 | 9      |
| Totals  | 0 | 72 | 6 | 78     |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 0 | 0 | 0      |
| B       | 0 | 0 | 6 | 6      |
| C       | 0 | 6 | 0 | 6      |
| Totals  | 0 | 6 | 6 | 12     |

#### Total

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 63 | 6  | 70     |
| B       | 0 | 0  | 6  | 6      |
| C       | 0 | 15 | 0  | 15     |
| Totals  | 0 | 78 | 12 | 90     |

#### %HGV

| From/To | A    | B     | C      | Average |
|---------|------|-------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 100.0% | 33%     |
| C       | 0.0% | 39.2% | 0.0%   | 13%     |
| Average | 0%   | 13%   | 33%    | 15%     |

### PM Peak Traffic

#### Vehicles

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 0 | 0 | 0      |
| B       | 63 | 0 | 9 | 72     |
| C       | 6  | 0 | 0 | 6      |
| Totals  | 70 | 0 | 9 | 78     |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 0 | 0 | 0      |
| B       | 0 | 0 | 6 | 6      |
| C       | 0 | 6 | 0 | 6      |
| Totals  | 0 | 6 | 6 | 12     |

#### Total

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 63 | 0 | 15 | 78     |
| C       | 6  | 6 | 0  | 12     |
| Totals  | 70 | 6 | 15 | 90     |

#### %HGV

| From/To | A    | B      | C     | Average |
|---------|------|--------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 39.2% | 13%     |
| C       | 0.0% | 100.0% | 0.0%  | 33%     |
| Average | 0%   | 33%    | 13%   | 15%     |

## Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 South

### AM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 157 | 519 | 676    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 88  | 0   | 482    |
| Totals  | 462 | 245 | 589 | 1296   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 7  | 30 | 37     |
| B       | 4  | 0  | 8  | 12     |
| C       | 22 | 6  | 0  | 28     |
| Totals  | 26 | 13 | 37 | 77     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 164 | 549 | 713    |
| B       | 73  | 0   | 78  | 151    |
| C       | 416 | 94  | 0   | 510    |
| Totals  | 489 | 258 | 626 | 1373   |

#### %HGV

| From/To | A    | B    | C     | Average |
|---------|------|------|-------|---------|
| A       | 0.0% | 4.5% | 5.4%  | 3%      |
| B       | 5.8% | 0.0% | 10.1% | 5%      |
| C       | 5.3% | 6.1% | 0.0%  | 4%      |
| Average | 4%   | 4%   | 5%    | 4%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 140 | 0   | 101 | 241    |
| C       | 551 | 49  | 0   | 600    |
| Totals  | 691 | 115 | 594 | 1401   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 20 | 21     |
| B       | 2  | 0 | 7  | 9      |
| C       | 14 | 6 | 0  | 20     |
| Totals  | 16 | 7 | 27 | 50     |

#### Total

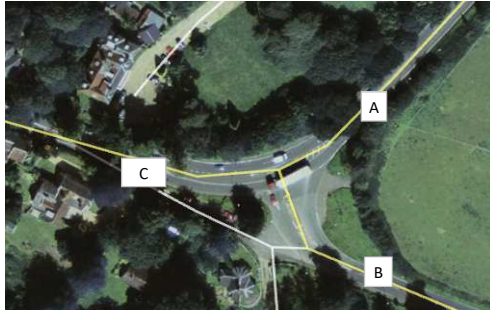
| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 68  | 514 | 581    |
| B       | 142 | 0   | 108 | 250    |
| C       | 565 | 54  | 0   | 620    |
| Totals  | 707 | 122 | 621 | 1450   |

#### %HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 1.6%  | 3.9% | 2%      |
| B       | 1.5% | 0.0%  | 6.3% | 3%      |
| C       | 2.4% | 10.6% | 0.0% | 4%      |
| Average | 1%   | 4%    | 3%   | 3%      |



## Junction 2 - A12 / B1122 Junction



### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12       |
| 1    | B   | B1122     |
| 2    | C   | A12       |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 07:30AM - 08:30AM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 88  | 485 | 573    |
| B       | 65  | 0   | 66  | 131    |
| C       | 372 | 75  | 0   | 447    |
| Totals  | 437 | 163 | 551 | 1151   |

### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 28 | 35     |
| B       | 4  | 0 | 2  | 6      |
| C       | 21 | 0 | 0  | 21     |
| Totals  | 25 | 7 | 30 | 62     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 95  | 513 | 608    |
| B       | 69  | 0   | 68  | 137    |
| C       | 393 | 75  | 0   | 468    |
| Totals  | 462 | 170 | 581 | 1213   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 63  | 466 | 529    |
| B       | 72  | 0   | 87  | 159    |
| C       | 515 | 46  | 0   | 561    |
| Totals  | 587 | 109 | 553 | 1249   |

### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 19 | 20     |
| B       | 2  | 0 | 1  | 3      |
| C       | 13 | 0 | 0  | 13     |
| Totals  | 15 | 1 | 20 | 36     |

### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 64  | 485 | 549    |
| B       | 74  | 0   | 88  | 162    |
| C       | 528 | 46  | 0   | 574    |
| Totals  | 602 | 110 | 573 | 1285   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 93  | 513 | 606    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 79  | 0   | 473    |
| Totals  | 462 | 172 | 583 | 1218   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 30 | 37     |
| B       | 4  | 0 | 2  | 6      |
| C       | 22 | 0 | 0  | 22     |
| Totals  | 26 | 7 | 32 | 66     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 100 | 543 | 643    |
| B       | 73  | 0   | 72  | 145    |
| C       | 416 | 79  | 0   | 495    |
| Totals  | 489 | 180 | 615 | 1283   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 76  | 0   | 92  | 168    |
| C       | 545 | 49  | 0   | 594    |
| Totals  | 622 | 115 | 586 | 1322   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 20 | 21     |
| B       | 2  | 0 | 1  | 3      |
| C       | 14 | 0 | 0  | 14     |
| Totals  | 16 | 1 | 21 | 38     |

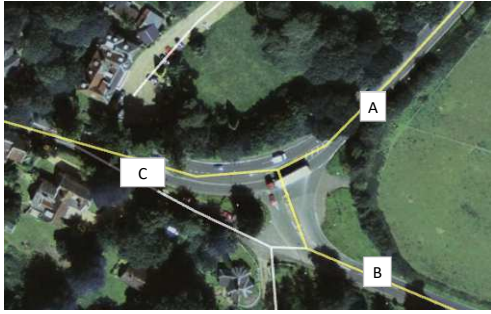
### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 68  | 514 | 581    |
| B       | 78  | 0   | 93  | 172    |
| C       | 559 | 49  | 0   | 608    |
| Totals  | 637 | 116 | 607 | 1361   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

# Junction 2 - A12 / B1122 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12       |
| 1    | B   | B1122     |
| 2    | C   | A12       |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## EA2 Construction Traffic (2023) - 100% HGV Origin from A12 north

### AM Peak Traffic

#### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 63 | 6 | 70     |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 9  | 0 | 9      |
| Totals  | 0 | 72 | 6 | 78     |

#### HGVs

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 4 | 7 | 11     |
| B       | 4  | 0 | 0 | 4      |
| C       | 7  | 0 | 0 | 7      |
| Totals  | 11 | 4 | 7 | 21     |

#### Total

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 67 | 13 | 80     |
| B       | 4  | 0  | 0  | 4      |
| C       | 7  | 9  | 0  | 16     |
| Totals  | 11 | 76 | 13 | 99     |

#### %HGV

| From/To | A      | B    | C     | Average |
|---------|--------|------|-------|---------|
| A       | 0.0%   | 5.6% | 52.5% | 19%     |
| B       | 100.0% | 0.0% | 0.0%  | 33%     |
| C       | 100.0% | 0.0% | 0.0%  | 33%     |
| Average | 67%    | 2%   | 18%   | 29%     |

### PM Peak Traffic

#### Vehicles

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 0 | 0 | 0      |
| B       | 63 | 0 | 9 | 72     |
| C       | 6  | 0 | 0 | 6      |
| Totals  | 70 | 0 | 9 | 78     |

#### HGVs

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 4 | 7 | 11     |
| B       | 4  | 0 | 0 | 4      |
| C       | 7  | 0 | 0 | 7      |
| Totals  | 11 | 4 | 7 | 21     |

#### Total

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 4 | 7  | 11     |
| B       | 67 | 0 | 9  | 76     |
| C       | 13 | 0 | 0  | 13     |
| Totals  | 80 | 4 | 16 | 99     |

#### %HGV

| From/To | A     | B      | C      | Average |
|---------|-------|--------|--------|---------|
| A       | 0.0%  | 100.0% | 100.0% | 67%     |
| B       | 5.6%  | 0.0%   | 0.0%   | 2%      |
| C       | 52.5% | 0.0%   | 0.0%   | 18%     |
| Average | 19%   | 33%    | 33%    | 29%     |

## Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 north

### AM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 157 | 519 | 676    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 88  | 0   | 482    |
| Totals  | 462 | 245 | 589 | 1296   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 11 | 36 | 48     |
| B       | 8  | 0  | 2  | 10     |
| C       | 29 | 0  | 0  | 29     |
| Totals  | 37 | 11 | 38 | 87     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 168 | 555 | 723    |
| B       | 77  | 0   | 72  | 149    |
| C       | 422 | 88  | 0   | 511    |
| Totals  | 499 | 256 | 627 | 1383   |

#### %HGV

| From/To | A     | B    | C    | Average |
|---------|-------|------|------|---------|
| A       | 0.0%  | 6.7% | 6.5% | 4%      |
| B       | 10.4% | 0.0% | 2.9% | 4%      |
| C       | 6.9%  | 0.0% | 0.0% | 2%      |
| Average | 6%    | 2%   | 3%   | 4%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 140 | 0   | 101 | 241    |
| C       | 551 | 49  | 0   | 600    |
| Totals  | 691 | 115 | 594 | 1401   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 5 | 27 | 32     |
| B       | 6  | 0 | 1  | 7      |
| C       | 20 | 0 | 0  | 20     |
| Totals  | 26 | 5 | 28 | 59     |

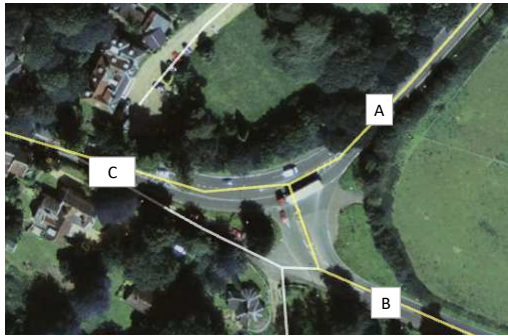
#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 72  | 520 | 592    |
| B       | 146 | 0   | 102 | 248    |
| C       | 572 | 49  | 0   | 621    |
| Totals  | 717 | 120 | 622 | 1460   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.7% | 5.2% | 4%      |
| B       | 4.0% | 0.0% | 1.0% | 2%      |
| C       | 3.6% | 0.0% | 0.0% | 1%      |
| Average | 3%   | 2%   | 2%   | 2%      |

## Junction 2 - A12 / B1122 Junction



### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12 east  |
| 4    | B   | B1122     |
| 2    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

### AM Peak Traffic

Thursday 6th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 88  | 485 | 573    |
| B       | 65  | 0   | 66  | 131    |
| C       | 372 | 75  | 0   | 447    |
| Totals  | 437 | 163 | 551 | 1151   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 28 | 35     |
| B       | 4  | 0 | 2  | 6      |
| C       | 21 | 0 | 0  | 21     |
| Totals  | 25 | 7 | 30 | 62     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 95  | 513 | 608    |
| B       | 69  | 0   | 68  | 137    |
| C       | 393 | 75  | 0   | 468    |
| Totals  | 462 | 170 | 581 | 1213   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

### PM Peak Traffic

Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 63  | 466 | 529    |
| B       | 72  | 0   | 87  | 159    |
| C       | 515 | 46  | 0   | 561    |
| Totals  | 587 | 109 | 553 | 1249   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 19 | 20     |
| B       | 2  | 0 | 1  | 3      |
| C       | 13 | 0 | 0  | 13     |
| Totals  | 15 | 1 | 20 | 36     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 64  | 485 | 549    |
| B       | 74  | 0   | 88  | 162    |
| C       | 528 | 46  | 0   | 574    |
| Totals  | 602 | 110 | 573 | 1285   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 93  | 513 | 606    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 79  | 0   | 473    |
| Totals  | 462 | 172 | 583 | 1218   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 30 | 37     |
| B       | 4  | 0 | 2  | 6      |
| C       | 22 | 0 | 0  | 22     |
| Totals  | 26 | 7 | 32 | 66     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 100 | 543 | 643    |
| B       | 73  | 0   | 72  | 145    |
| C       | 416 | 79  | 0   | 495    |
| Totals  | 489 | 180 | 615 | 1283   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 76  | 0   | 92  | 168    |
| C       | 545 | 49  | 0   | 594    |
| Totals  | 622 | 115 | 586 | 1322   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 20 | 21     |
| B       | 2  | 0 | 1  | 3      |
| C       | 14 | 0 | 0  | 14     |
| Totals  | 16 | 1 | 21 | 38     |

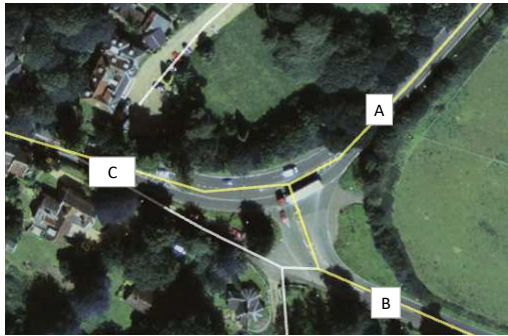
### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 68  | 514 | 581    |
| B       | 78  | 0   | 93  | 172    |
| C       | 559 | 49  | 0   | 608    |
| Totals  | 637 | 116 | 607 | 1361   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

## Junction 2 - A12 / B1122 Junction



### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12 east  |
| 4    | B   | B1122     |
| 2    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## EA2 + EA1N Southbound Construction Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 80 | 6 | 86     |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 11 | 0 | 11     |
| Totals  | 0 | 91 | 6 | 97     |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 0 | 0 | 0      |
| B       | 0 | 0 | 8 | 8      |
| C       | 0 | 8 | 0 | 8      |
| Totals  | 0 | 8 | 8 | 15     |

#### Total

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 80 | 6  | 86     |
| B       | 0 | 0  | 8  | 8      |
| C       | 0 | 18 | 0  | 18     |
| Totals  | 0 | 98 | 14 | 112    |

#### %HGV

| From/To | A    | B     | C      | Average |
|---------|------|-------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 100.0% | 33%     |
| C       | 0.0% | 41.6% | 0.0%   | 14%     |
| Average | 0%   | 14%   | 33%    | 16%     |

### PM Peak Traffic

#### Vehicles

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 80 | 0 | 11 | 91     |
| C       | 6  | 0 | 0  | 6      |
| Totals  | 86 | 0 | 11 | 97     |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 0 | 0 | 0      |
| B       | 0 | 0 | 8 | 8      |
| C       | 0 | 8 | 0 | 8      |
| Totals  | 0 | 8 | 8 | 15     |

#### Total

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 80 | 0 | 18 | 98     |
| C       | 6  | 8 | 0  | 14     |
| Totals  | 86 | 8 | 18 | 112    |

#### %HGV

| From/To | A    | B      | C     | Average |
|---------|------|--------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 41.6% | 14%     |
| C       | 0.0% | 100.0% | 0.0%  | 33%     |
| Average | 0%   | 33%    | 14%   | 16%     |

## Forecast Flows + EA2 + EA1N Southbound Construction Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 173 | 519 | 692    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 90  | 0   | 484    |
| Totals  | 462 | 263 | 589 | 1314   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 7  | 30 | 37     |
| B       | 4  | 0  | 10 | 14     |
| C       | 22 | 8  | 0  | 30     |
| Totals  | 26 | 15 | 39 | 81     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 181 | 549 | 729    |
| B       | 73  | 0   | 80  | 153    |
| C       | 416 | 98  | 0   | 513    |
| Totals  | 489 | 278 | 628 | 1395   |

#### %HGV

| From/To | A    | B    | C     | Average |
|---------|------|------|-------|---------|
| A       | 0.0% | 4.1% | 5.4%  | 3%      |
| B       | 5.8% | 0.0% | 12.3% | 6%      |
| C       | 5.3% | 7.8% | 0.0%  | 4%      |
| Average | 4%   | 4%   | 6%    | 5%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 156 | 0   | 103 | 259    |
| C       | 551 | 49  | 0   | 600    |
| Totals  | 708 | 115 | 596 | 1419   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 20 | 21     |
| B       | 2  | 0 | 9  | 11     |
| C       | 14 | 8 | 0  | 21     |
| Totals  | 16 | 9 | 29 | 53     |

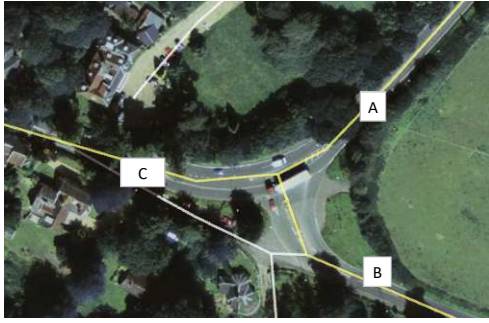
#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 68  | 514 | 581    |
| B       | 158 | 0   | 112 | 270    |
| C       | 565 | 56  | 0   | 621    |
| Totals  | 724 | 124 | 625 | 1473   |

#### %HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 1.6%  | 3.9% | 2%      |
| B       | 1.3% | 0.0%  | 7.8% | 3%      |
| C       | 2.4% | 13.6% | 0.0% | 5%      |
| Average | 1%   | 5%    | 4%   | 3%      |

## Junction 2 - A12 / B1122 Junction



### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12 east  |
| 4    | B   | B1122     |
| 2    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

### AM Peak Traffic Thursday 6th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 88  | 485 | 573    |
| B       | 65  | 0   | 66  | 131    |
| C       | 372 | 75  | 0   | 447    |
| Totals  | 437 | 163 | 551 | 1151   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 28 | 35     |
| B       | 4  | 0 | 2  | 6      |
| C       | 21 | 0 | 0  | 21     |
| Totals  | 25 | 7 | 30 | 62     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 95  | 513 | 608    |
| B       | 69  | 0   | 68  | 137    |
| C       | 393 | 75  | 0   | 468    |
| Totals  | 462 | 170 | 581 | 1213   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

### PM Peak Traffic Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 63  | 466 | 529    |
| B       | 72  | 0   | 87  | 159    |
| C       | 515 | 46  | 0   | 561    |
| Totals  | 587 | 109 | 553 | 1249   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 19 | 20     |
| B       | 2  | 0 | 1  | 3      |
| C       | 13 | 0 | 0  | 13     |
| Totals  | 15 | 1 | 20 | 36     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 64  | 485 | 549    |
| B       | 74  | 0   | 88  | 162    |
| C       | 528 | 46  | 0   | 574    |
| Totals  | 602 | 110 | 573 | 1285   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 93  | 513 | 606    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 79  | 0   | 473    |
| Totals  | 462 | 172 | 583 | 1218   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 7 | 30 | 37     |
| B       | 4  | 0 | 2  | 6      |
| C       | 22 | 0 | 0  | 22     |
| Totals  | 26 | 7 | 32 | 66     |

### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 100 | 543 | 643    |
| B       | 73  | 0   | 72  | 145    |
| C       | 416 | 79  | 0   | 495    |
| Totals  | 489 | 180 | 615 | 1283   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 7.4% | 5.5% | 4%      |
| B       | 5.8% | 0.0% | 2.9% | 3%      |
| C       | 5.3% | 0.0% | 0.0% | 2%      |
| Average | 4%   | 2%   | 3%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 76  | 0   | 92  | 168    |
| C       | 545 | 49  | 0   | 594    |
| Totals  | 622 | 115 | 586 | 1322   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 1 | 20 | 21     |
| B       | 2  | 0 | 1  | 3      |
| C       | 14 | 0 | 0  | 14     |
| Totals  | 16 | 1 | 21 | 38     |

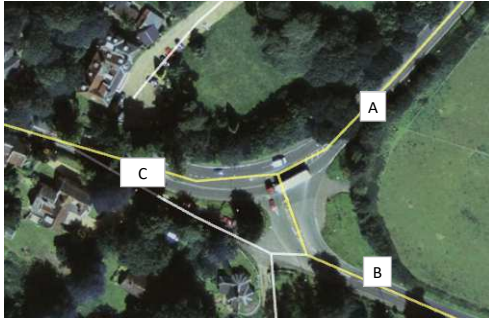
### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 68  | 514 | 581    |
| B       | 78  | 0   | 93  | 172    |
| C       | 559 | 49  | 0   | 608    |
| Totals  | 637 | 116 | 607 | 1361   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.6% | 3.9% | 2%      |
| B       | 2.7% | 0.0% | 1.1% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 2%   | 1%      |

# Junction 2 - A12 / B1122 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 1    | A   | A12 east  |
| 4    | B   | B1122     |
| 2    | C   | A12 west  |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## EA2 + EA1N Northbound Construction Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 80 | 6 | 86     |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 11 | 0 | 11     |
| Totals  | 0 | 91 | 6 | 97     |

#### HGVs

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 5 | 8 | 14     |
| B       | 5  | 0 | 0 | 5      |
| C       | 8  | 0 | 0 | 8      |
| Totals  | 14 | 5 | 8 | 27     |

#### Total

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 85 | 15 | 100    |
| B       | 5  | 0  | 0  | 5      |
| C       | 8  | 11 | 0  | 19     |
| Totals  | 14 | 96 | 15 | 124    |

#### %HGV

| From/To | A      | B    | C     | Average |
|---------|--------|------|-------|---------|
| A       | 0.0%   | 5.9% | 58.2% | 21%     |
| B       | 100.0% | 0.0% | 0.0%  | 33%     |
| C       | 100.0% | 0.0% | 0.0%  | 33%     |
| Average | 67%    | 2%   | 19%   | 29%     |

### PM Peak Traffic

#### Vehicles

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 80 | 0 | 11 | 91     |
| C       | 6  | 0 | 0  | 6      |
| Totals  | 86 | 0 | 11 | 97     |

#### HGVs

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 5 | 8 | 14     |
| B       | 5  | 0 | 0 | 5      |
| C       | 8  | 0 | 0 | 8      |
| Totals  | 14 | 5 | 8 | 27     |

#### Total

| From/To | A   | B | C  | Totals |
|---------|-----|---|----|--------|
| A       | 0   | 5 | 8  | 14     |
| B       | 85  | 0 | 11 | 96     |
| C       | 15  | 0 | 0  | 15     |
| Totals  | 100 | 5 | 19 | 124    |

#### %HGV

| From/To | A     | B      | C      | Average |
|---------|-------|--------|--------|---------|
| A       | 0.0%  | 100.0% | 100.0% | 67%     |
| B       | 5.9%  | 0.0%   | 0.0%   | 2%      |
| C       | 58.2% | 0.0%   | 0.0%   | 19%     |
| Average | 21%   | 33%    | 33%    | 29%     |

## Forecast Flows + EA2 + EA1N Northbound Construction Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 173 | 519 | 692    |
| B       | 69  | 0   | 70  | 139    |
| C       | 394 | 90  | 0   | 484    |
| Totals  | 462 | 263 | 589 | 1314   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 12 | 38 | 51     |
| B       | 9  | 0  | 2  | 11     |
| C       | 31 | 0  | 0  | 31     |
| Totals  | 40 | 12 | 40 | 93     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 186 | 557 | 743    |
| B       | 78  | 0   | 72  | 150    |
| C       | 424 | 90  | 0   | 514    |
| Totals  | 502 | 276 | 629 | 1407   |

#### %HGV

| From/To | A     | B    | C    | Average |
|---------|-------|------|------|---------|
| A       | 0.0%  | 6.7% | 6.8% | 5%      |
| B       | 11.9% | 0.0% | 2.9% | 5%      |
| C       | 7.2%  | 0.0% | 0.0% | 2%      |
| Average | 6%    | 2%   | 3%   | 4%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 67  | 493 | 560    |
| B       | 156 | 0   | 103 | 259    |
| C       | 551 | 49  | 0   | 600    |
| Totals  | 708 | 115 | 596 | 1419   |

#### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 6 | 29 | 35     |
| B       | 7  | 0 | 1  | 8      |
| C       | 22 | 0 | 0  | 22     |
| Totals  | 29 | 6 | 30 | 65     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 73  | 522 | 595    |
| B       | 163 | 0   | 104 | 267    |
| C       | 574 | 49  | 0   | 622    |
| Totals  | 737 | 122 | 626 | 1484   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 8.4% | 5.5% | 5%      |
| B       | 4.4% | 0.0% | 1.0% | 2%      |
| C       | 3.9% | 0.0% | 0.0% | 1%      |
| Average | 3%   | 3%   | 2%   | 3%      |

| Junctions 8                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |

**Filename:** Junction 2 - A12 and B1122.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 02/07/2019 15:28:01

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

## Summary of junction performance

|                                                                                      | AM          |           |      |     | PM          |           |      |     |
|--------------------------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| <b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023</b> |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.79        | 17.46     | 0.45 | C   | 2.80        | 35.93     | 0.75 | E   |
| Stream C-AB                                                                          | 0.22        | 8.17      | 0.18 | A   | 0.10        | 6.74      | 0.09 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023</b> |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.74        | 16.01     | 0.43 | C   | 2.53        | 32.04     | 0.73 | D   |
| Stream C-AB                                                                          | 0.27        | 8.96      | 0.21 | A   | 0.13        | 7.74      | 0.12 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023</b>        |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.75        | 16.68     | 0.43 | C   | 2.06        | 28.07     | 0.68 | D   |
| Stream C-AB                                                                          | 0.21        | 8.01      | 0.18 | A   | 0.10        | 6.71      | 0.09 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023</b>        |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.67        | 14.77     | 0.41 | B   | 1.92        | 25.94     | 0.67 | D   |
| Stream C-AB                                                                          | 0.23        | 8.08      | 0.19 | A   | 0.13        | 7.56      | 0.11 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background 2023</b>                                    |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.61        | 13.83     | 0.38 | B   | 0.71        | 13.73     | 0.42 | B   |
| Stream C-AB                                                                          | 0.18        | 7.38      | 0.15 | A   | 0.10        | 6.62      | 0.09 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM " model duration: 07:15 - 08:45

"D2 - Forecast Background 2023, PM" model duration: 16:15 - 17:45

"D3 - Forecast Background + EA2 Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D4 - Forecast Background + EA2 Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D5 - Forecast Background + EA2 Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D6 - Forecast Background + EA2 Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

"D7 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D8 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D9 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D10 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 02/07/2019 15:27:52



## File summary

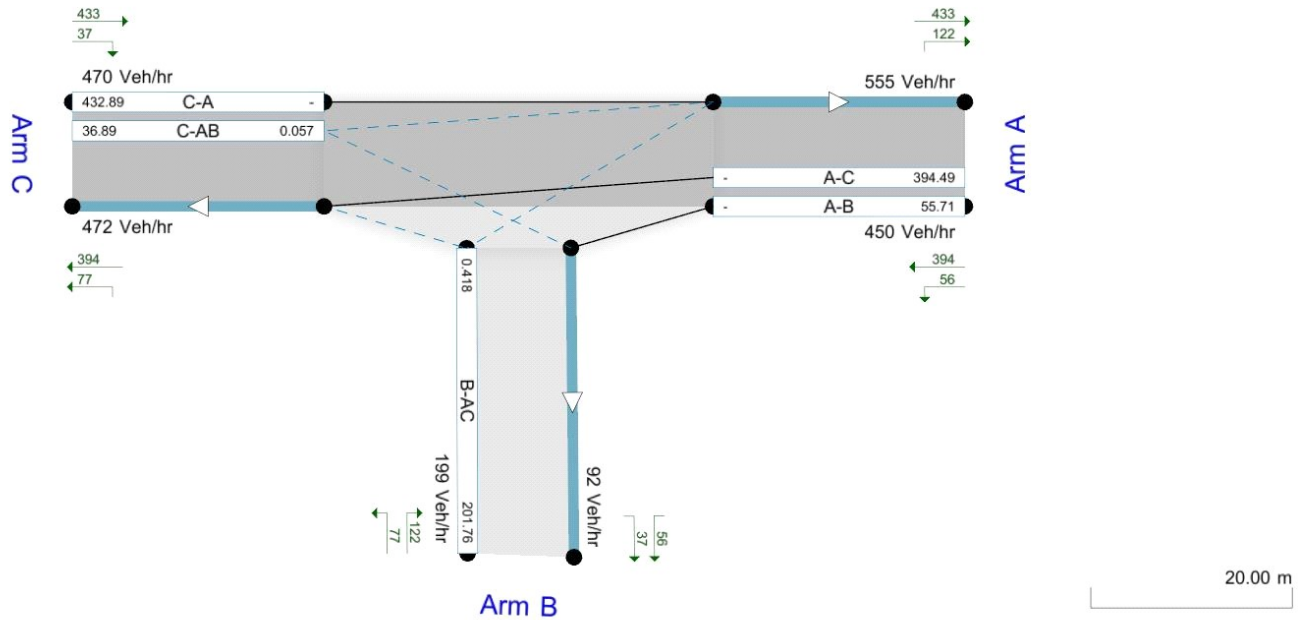
|                    |                                   |
|--------------------|-----------------------------------|
| <b>Title</b>       | East Anglia TWO Offshore Windfarm |
| <b>Location</b>    | Junction of the A12 and B1122     |
| <b>Site Number</b> | J2                                |
| <b>Date</b>        | 24/06/2019                        |
| <b>Version</b>     | D0.1                              |
| <b>Status</b>      | Existing Layout                   |
| <b>Identifier</b>  |                                   |
| <b>Client</b>      | Scottish Power                    |
| <b>Jobnumber</b>   | PB4842                            |
| <b>Enumerator</b>  | 304111                            |
| <b>Description</b> |                                   |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:15-07:30)  
Showing Analysis Set "A1 - Existing Layout "; Demand Set "D1 - Forecast Background 2023, AM "

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 11.61              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

### Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 643.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 145.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 495.00                       | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 484.08                            | 512.14                              |                                  |                                        |
| 07:15-07:30  | B   | 109.16                            | 113.92                              |                                  |                                        |
| 07:15-07:30  | C   | 372.66                            | 389.26                              |                                  |                                        |
| 07:30-07:45  | A   | 578.04                            | 611.54                              |                                  |                                        |
| 07:30-07:45  | B   | 130.35                            | 136.04                              |                                  |                                        |
| 07:30-07:45  | C   | 444.99                            | 464.82                              |                                  |                                        |
| 07:45-08:00  | A   | 707.96                            | 748.99                              |                                  |                                        |
| 07:45-08:00  | B   | 159.65                            | 166.61                              |                                  |                                        |
| 07:45-08:00  | C   | 545.01                            | 569.28                              |                                  |                                        |
| 08:00-08:15  | A   | 707.96                            | 748.99                              |                                  |                                        |
| 08:00-08:15  | B   | 159.65                            | 166.61                              |                                  |                                        |
| 08:00-08:15  | C   | 545.01                            | 569.28                              |                                  |                                        |
| 08:15-08:30  | A   | 578.04                            | 611.54                              |                                  |                                        |
| 08:15-08:30  | B   | 130.35                            | 136.04                              |                                  |                                        |
| 08:15-08:30  | C   | 444.99                            | 464.82                              |                                  |                                        |
| 08:30-08:45  | A   | 484.08                            | 512.14                              |                                  |                                        |
| 08:30-08:45  | B   | 109.16                            | 113.92                              |                                  |                                        |
| 08:30-08:45  | C   | 372.66                            | 389.26                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 100.000 | 543.000 |
|      | B  | 73.000  | 0.000   | 72.000  |
|      | C  | 416.000 | 79.000  | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.16 | 0.84 |
|      | B  | 0.50 | 0.00 | 0.50 |
|      | C  | 0.84 | 0.16 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.074 | 1.055 |
|      | B  | 1.058 | 1.000 | 1.029 |
|      | C  | 1.053 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 7.4 | 5.5 |
|      | B  | 5.8 | 0.0 | 2.9 |
|      | C  | 5.3 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.38    | 13.83         | 0.61            | B       | 133.05                  | 199.58                        | 37.43                          | 11.25                      | 0.42                                 | 37.43                                    | 11.25                                |
| C-AB   | 0.15    | 7.38          | 0.18            | A       | 72.49                   | 108.74                        | 12.33                          | 6.80                       | 0.14                                 | 12.33                                    | 6.80                                 |
| C-A    | -       | -             | -               | -       | 381.73                  | 572.59                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 91.76                   | 137.64                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 498.27                  | 747.40                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 109.16                | 27.29                   | 108.07              | 0.00                       | 505.05            | 0.216 | 0.00              | 0.27            | 9.045     | A   |
| C-AB   | 59.48                 | 14.87                   | 59.07               | 0.00                       | 639.18            | 0.093 | 0.00              | 0.10            | 6.202     | A   |
| C-A    | 313.19                | 78.30                   | 313.19              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 75.29                 | 18.82                   | 75.29               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 408.80                | 102.20                  | 408.80              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 130.35                | 32.59                   | 129.93              | 0.00                       | 469.81            | 0.277 | 0.27              | 0.38            | 10.577    | B   |
| C-AB   | 71.02                 | 17.76                   | 70.91               | 0.00                       | 612.23            | 0.116 | 0.10              | 0.13            | 6.648     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 89.90                 | 22.47                   | 89.90               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 488.15                | 122.04                  | 488.15              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 159.65                | 39.91                   | 158.76              | 0.00                       | 419.94            | 0.380 | 0.38              | 0.60            | 13.735    | B   |
| C-AB   | 86.99                 | 21.75                   | 86.80               | 0.00                       | 574.98            | 0.151 | 0.13              | 0.18            | 7.374     | A   |
| C-A    | 458.02                | 114.50                  | 458.02              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 110.10                | 27.53                   | 110.10              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 597.85                | 149.46                  | 597.85              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 159.65                | 39.91                   | 159.62              | 0.00                       | 419.88            | 0.380 | 0.60              | 0.61            | 13.827    | B   |
| C-AB   | 86.99                 | 21.75                   | 86.98               | 0.00                       | 574.98            | 0.151 | 0.18              | 0.18            | 7.376     | A   |
| C-A    | 458.02                | 114.50                  | 458.02              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 110.10                | 27.53                   | 110.10              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 597.85                | 149.46                  | 597.85              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 130.35                | 32.59                   | 131.22              | 0.00                       | 469.72            | 0.278 | 0.61              | 0.39            | 10.661    | B   |
| C-AB   | 71.02                 | 17.76                   | 71.20               | 0.00                       | 612.23            | 0.116 | 0.18              | 0.13            | 6.655     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 89.90                 | 22.47                   | 89.90               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 488.15                | 122.04                  | 488.15              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 109.16                | 27.29                   | 109.61              | 0.00                       | 504.91            | 0.216 | 0.39              | 0.28            | 9.116     | A   |
| C-AB   | 59.48                 | 14.87                   | 59.59               | 0.00                       | 639.18            | 0.093 | 0.13              | 0.10            | 6.211     | A   |
| C-A    | 313.19                | 78.30                   | 313.19              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 75.29                 | 18.82                   | 75.29               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 408.80                | 102.20                  | 408.80              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Queueing Delay Results for each time segment

#### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 3.91                           | 0.26                                 | 9.045                                  | A                             | A                           |
| C-AB   | 1.52                           | 0.10                                 | 6.202                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 5.49                           | 0.37                                 | 10.577                                 | B                             | B                           |
| C-AB   | 1.96                           | 0.13                                 | 6.648                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 8.57                           | 0.57                                 | 13.735                                 | B                             | B                           |
| C-AB   | 2.65                           | 0.18                                 | 7.374                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.05                           | 0.60                                 | 13.827                                 | B                             | B                           |
| C-AB   | 2.67                           | 0.18                                 | 7.376                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.10                           | 0.41                                 | 10.661                                 | B                             | B                           |
| C-AB   | 1.99                           | 0.13                                 | 6.655                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.32                           | 0.29                                 | 9.116                                  | A                             | A                           |
| C-AB   | 1.55                           | 0.10                                 | 6.211                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 12.17              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |



# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 582.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 171.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 608.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 16:15-16:30  | B   | 128.74                            | 131.09                              |                                  |                                        |
| 16:15-16:30  | C   | 457.73                            | 468.26                              |                                  |                                        |
| 16:30-16:45  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 16:30-16:45  | B   | 153.73                            | 156.54                              |                                  |                                        |
| 16:30-16:45  | C   | 546.58                            | 559.14                              |                                  |                                        |
| 16:45-17:00  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 16:45-17:00  | B   | 188.27                            | 191.72                              |                                  |                                        |
| 16:45-17:00  | C   | 669.42                            | 684.81                              |                                  |                                        |
| 17:00-17:15  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 17:00-17:15  | B   | 188.27                            | 191.72                              |                                  |                                        |
| 17:00-17:15  | C   | 669.42                            | 684.81                              |                                  |                                        |
| 17:15-17:30  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 17:15-17:30  | B   | 153.73                            | 156.54                              |                                  |                                        |
| 17:15-17:30  | C   | 546.58                            | 559.14                              |                                  |                                        |
| 17:30-17:45  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 17:30-17:45  | B   | 128.74                            | 131.09                              |                                  |                                        |
| 17:30-17:45  | C   | 457.73                            | 468.26                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 68.000 | 514.000 |
|      | B  | 78.000  | 0.000  | 93.000  |
|      | C  | 559.000 | 49.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.46 | 0.00 | 0.54 |
|      | C  | 0.92 | 0.08 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.016 | 1.039 |
|      | B  | 1.027 | 1.000 | 1.011 |
|      | C  | 1.025 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 1.6 | 3.9 |
|      | B  | 2.7 | 0.0 | 1.1 |
|      | C  | 2.5 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.42    | 13.73         | 0.71            | B       | 156.91                  | 235.37                        | 43.45                          | 11.08                      | 0.48                                 | 43.46                                    | 11.08                                |
| C-AB   | 0.09    | 6.62          | 0.10            | A       | 44.96                   | 67.45                         | 7.00                           | 6.23                       | 0.08                                 | 7.00                                     | 6.23                                 |
| C-A    | -       | -             | -               | -       | 512.95                  | 769.42                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 62.40                   | 93.60                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 471.66                  | 707.48                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 128.74                | 32.18                   | 127.48              | 0.00                       | 534.54            | 0.241 | 0.00              | 0.31            | 8.817     | A   |
| C-AB   | 36.89                 | 9.22                    | 36.65               | 0.00                       | 654.92            | 0.056 | 0.00              | 0.06            | 5.823     | A   |
| C-A    | 420.84                | 105.21                  | 420.84              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 153.73                | 38.43                   | 153.23              | 0.00                       | 499.84            | 0.308 | 0.31              | 0.44            | 10.372    | B   |
| C-AB   | 44.05                 | 11.01                   | 43.99               | 0.00                       | 631.02            | 0.070 | 0.06              | 0.07            | 6.132     | A   |
| C-A    | 502.53                | 125.63                  | 502.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.27                | 47.07                   | 187.22              | 0.00                       | 450.43            | 0.418 | 0.44              | 0.70            | 13.621    | B   |
| C-AB   | 53.95                 | 13.49                   | 53.85               | 0.00                       | 597.98            | 0.090 | 0.07              | 0.10            | 6.616     | A   |
| C-A    | 615.47                | 153.87                  | 615.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.27                | 47.07                   | 188.24              | 0.00                       | 450.40            | 0.418 | 0.70              | 0.71            | 13.727    | B   |
| C-AB   | 53.95                 | 13.49                   | 53.95               | 0.00                       | 597.98            | 0.090 | 0.10              | 0.10            | 6.616     | A   |
| C-A    | 615.47                | 153.87                  | 615.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 153.73                | 38.43                   | 154.76              | 0.00                       | 499.79            | 0.308 | 0.71              | 0.45            | 10.464    | B   |
| C-AB   | 44.05                 | 11.01                   | 44.14               | 0.00                       | 631.02            | 0.070 | 0.10              | 0.08            | 6.134     | A   |
| C-A    | 502.53                | 125.63                  | 502.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 128.74                | 32.18                   | 129.26              | 0.00                       | 534.46            | 0.241 | 0.45              | 0.32            | 8.897     | A   |
| C-AB   | 36.89                 | 9.22                    | 36.95               | 0.00                       | 654.92            | 0.056 | 0.08              | 0.06            | 5.827     | A   |
| C-A    | 420.84                | 105.21                  | 420.84              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.50                           | 0.30                                 | 8.817                                  | A                             | A                           |
| C-AB   | 0.88                           | 0.06                                 | 5.823                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.34                           | 0.42                                 | 10.372                                 | B                             | B                           |
| C-AB   | 1.12                           | 0.07                                 | 6.132                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.00                          | 0.67                                 | 13.621                                 | B                             | B                           |
| C-AB   | 1.48                           | 0.10                                 | 6.616                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.59                          | 0.71                                 | 13.727                                 | B                             | B                           |
| C-AB   | 1.49                           | 0.10                                 | 6.616                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.06                           | 0.47                                 | 10.464                                 | B                             | B                           |
| C-AB   | 1.13                           | 0.08                                 | 6.134                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.98                           | 0.33                                 | 8.897                                  | A                             | A                           |
| C-AB   | 0.90                           | 0.06                                 | 5.827                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(S)) 2023, AM | Forecast Background + EA2 Construction (A12(S)) 2023 | AM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 12.23              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 613.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 151.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 510.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 461.50                            | 485.99                              |                                  |                                        |
| 07:15-07:30  | B   | 113.68                            | 123.15                              |                                  |                                        |
| 07:15-07:30  | C   | 383.95                            | 405.22                              |                                  |                                        |
| 07:30-07:45  | A   | 551.07                            | 580.31                              |                                  |                                        |
| 07:30-07:45  | B   | 135.75                            | 147.06                              |                                  |                                        |
| 07:30-07:45  | C   | 458.48                            | 483.88                              |                                  |                                        |
| 07:45-08:00  | A   | 674.93                            | 710.74                              |                                  |                                        |
| 07:45-08:00  | B   | 166.25                            | 180.10                              |                                  |                                        |
| 07:45-08:00  | C   | 561.52                            | 592.63                              |                                  |                                        |
| 08:00-08:15  | A   | 674.93                            | 710.74                              |                                  |                                        |
| 08:00-08:15  | B   | 166.25                            | 180.10                              |                                  |                                        |
| 08:00-08:15  | C   | 561.52                            | 592.63                              |                                  |                                        |
| 08:15-08:30  | A   | 551.07                            | 580.31                              |                                  |                                        |
| 08:15-08:30  | B   | 135.75                            | 147.06                              |                                  |                                        |
| 08:15-08:30  | C   | 458.48                            | 483.88                              |                                  |                                        |
| 08:30-08:45  | A   | 461.50                            | 485.99                              |                                  |                                        |
| 08:30-08:45  | B   | 113.68                            | 123.15                              |                                  |                                        |
| 08:30-08:45  | C   | 383.95                            | 405.22                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 64.000 | 549.000 |
|      | B  | 73.000  | 0.000  | 78.000  |
|      | C  | 416.000 | 94.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.10 | 0.90 |
|      | B  | 0.48 | 0.00 | 0.52 |
|      | C  | 0.82 | 0.18 | 0.00 |



# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.045 | 1.054 |
|      | B  | 1.058 | 1.000 | 1.107 |
|      | C  | 1.053 | 1.066 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |      |
|------|----|-----|-----|------|
|      |    | A   | B   | C    |
| From | A  | 0.0 | 4.5 | 5.4  |
|      | B  | 5.8 | 0.0 | 10.7 |
|      | C  | 5.3 | 6.6 | 0.0  |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.41    | 14.77         | 0.67            | B       | 138.56                  | 207.84                        | 41.17                          | 11.88                      | 0.46                                 | 41.17                                    | 11.89                                |
| C-AB   | 0.19    | 8.08          | 0.23            | A       | 86.27                   | 129.40                        | 15.98                          | 7.41                       | 0.18                                 | 15.98                                    | 7.41                                 |
| C-A    | -       | -             | -               | -       | 381.71                  | 572.57                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 58.73                   | 88.09                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 503.77                  | 755.66                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 113.68                | 28.42                   | 112.50              | 0.00                       | 492.72            | 0.231 | 0.00              | 0.30            | 9.439     | A   |
| C-AB   | 70.77                 | 17.69                   | 70.25               | 0.00                       | 606.26            | 0.117 | 0.00              | 0.13            | 6.711     | A   |
| C-A    | 313.19                | 78.30                   | 313.19              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 48.18                 | 12.05                   | 48.18               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 135.75                | 33.94                   | 135.27              | 0.00                       | 458.49            | 0.296 | 0.30              | 0.41            | 11.120    | B   |
| C-AB   | 84.51                 | 21.13                   | 84.36               | 0.00                       | 582.29            | 0.145 | 0.13              | 0.17            | 7.228     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 57.53                 | 14.38                   | 57.53               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 166.25                | 41.56                   | 165.25              | 0.00                       | 409.88            | 0.406 | 0.41              | 0.66            | 14.654    | B   |
| C-AB   | 103.53                | 25.88                   | 103.28              | 0.00                       | 549.21            | 0.189 | 0.17              | 0.23            | 8.069     | A   |
| C-A    | 457.99                | 114.50                  | 457.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 70.47                 | 17.62                   | 70.47               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 166.25                | 41.56                   | 166.22              | 0.00                       | 409.81            | 0.406 | 0.66              | 0.67            | 14.774    | B   |
| C-AB   | 103.53                | 25.88                   | 103.53              | 0.00                       | 549.21            | 0.189 | 0.23              | 0.23            | 8.077     | A   |
| C-A    | 457.99                | 114.50                  | 457.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 70.47                 | 17.62                   | 70.47               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 135.75                | 33.94                   | 136.73              | 0.00                       | 458.38            | 0.296 | 0.67              | 0.43            | 11.225    | B   |
| C-AB   | 84.51                 | 21.13                   | 84.75               | 0.00                       | 582.29            | 0.145 | 0.23              | 0.17            | 7.241     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 57.53                 | 14.38                   | 57.53               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 113.68                | 28.42                   | 114.18              | 0.00                       | 492.53            | 0.231 | 0.43              | 0.30            | 9.528     | A   |
| C-AB   | 70.77                 | 17.69                   | 70.92               | 0.00                       | 606.26            | 0.117 | 0.17              | 0.13            | 6.725     | A   |
| C-A    | 313.19                | 78.30                   | 313.19              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 48.18                 | 12.05                   | 48.18               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.24                           | 0.28                                 | 9.439                                  | A                             | A                           |
| C-AB   | 1.95                           | 0.13                                 | 6.711                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 5.99                           | 0.40                                 | 11.120                                 | B                             | B                           |
| C-AB   | 2.53                           | 0.17                                 | 7.228                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.47                           | 0.63                                 | 14.654                                 | B                             | B                           |
| C-AB   | 3.45                           | 0.23                                 | 8.069                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.05                          | 0.67                                 | 14.774                                 | B                             | B                           |
| C-AB   | 3.48                           | 0.23                                 | 8.077                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.70                           | 0.45                                 | 11.225                                 | B                             | B                           |
| C-AB   | 2.57                           | 0.17                                 | 7.241                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.71                           | 0.31                                 | 9.528                                  | A                             | A                           |
| C-AB   | 2.00                           | 0.13                                 | 6.725                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(S)) 2023, PM | Forecast Background + EA2 Construction (A12(S)) 2023 | PM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 22.42              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 582.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 250.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 620.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 16:15-16:30  | B   | 188.21                            | 195.26                              |                                  |                                        |
| 16:15-16:30  | C   | 466.77                            | 481.70                              |                                  |                                        |
| 16:30-16:45  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 16:30-16:45  | B   | 224.74                            | 233.16                              |                                  |                                        |
| 16:30-16:45  | C   | 557.37                            | 575.19                              |                                  |                                        |
| 16:45-17:00  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 16:45-17:00  | B   | 275.26                            | 285.57                              |                                  |                                        |
| 16:45-17:00  | C   | 682.63                            | 704.47                              |                                  |                                        |
| 17:00-17:15  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 17:00-17:15  | B   | 275.26                            | 285.57                              |                                  |                                        |
| 17:00-17:15  | C   | 682.63                            | 704.47                              |                                  |                                        |
| 17:15-17:30  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 17:15-17:30  | B   | 224.74                            | 233.16                              |                                  |                                        |
| 17:15-17:30  | C   | 557.37                            | 575.19                              |                                  |                                        |
| 17:30-17:45  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 17:30-17:45  | B   | 188.21                            | 195.26                              |                                  |                                        |
| 17:30-17:45  | C   | 466.77                            | 481.70                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 68.000 | 514.000 |
|      | B  | 142.000 | 0.000  | 108.000 |
|      | C  | 565.000 | 55.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.57 | 0.00 | 0.43 |
|      | C  | 0.91 | 0.09 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.016 | 1.039 |
|      | B  | 1.015 | 1.000 | 1.067 |
|      | C  | 1.024 | 1.114 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 1.6  | 3.9 |
|      | B  | 1.5 | 0.0  | 6.7 |
|      | C  | 2.4 | 11.4 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.67    | 25.94         | 1.92            | D       | 229.41                  | 344.11                        | 99.97                          | 17.43                      | 1.11                                 | 99.99                                    | 17.43                                |
| C-AB   | 0.11    | 7.56          | 0.13            | A       | 50.47                   | 75.71                         | 8.94                           | 7.08                       | 0.10                                 | 8.94                                     | 7.08                                 |
| C-A    | -       | -             | -               | -       | 518.45                  | 777.68                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 62.40                   | 93.60                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 471.66                  | 707.48                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.21                | 47.05                   | 185.85              | 0.00                       | 499.78            | 0.377 | 0.00              | 0.59            | 11.384    | B   |
| C-AB   | 41.41                 | 10.35                   | 41.11               | 0.00                       | 587.90            | 0.070 | 0.00              | 0.08            | 6.581     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 224.75                | 56.19                   | 223.47              | 0.00                       | 463.94            | 0.484 | 0.59              | 0.91            | 14.888    | B   |
| C-AB   | 49.44                 | 12.36                   | 49.37               | 0.00                       | 566.45            | 0.087 | 0.08              | 0.09            | 6.962     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 275.26                | 68.81                   | 271.50              | 0.00                       | 413.09            | 0.666 | 0.91              | 1.85            | 24.778    | C   |
| C-AB   | 60.56                 | 15.14                   | 60.44               | 0.00                       | 536.81            | 0.113 | 0.09              | 0.13            | 7.555     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 275.26                | 68.81                   | 274.99              | 0.00                       | 413.05            | 0.666 | 1.85              | 1.92            | 25.935    | D   |
| C-AB   | 60.56                 | 15.14                   | 60.56               | 0.00                       | 536.81            | 0.113 | 0.13              | 0.13            | 7.558     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 224.75                | 56.19                   | 228.54              | 0.00                       | 463.87            | 0.485 | 1.92              | 0.97            | 15.532    | C   |
| C-AB   | 49.44                 | 12.36                   | 49.57               | 0.00                       | 566.45            | 0.087 | 0.13              | 0.10            | 6.968     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.21                | 47.05                   | 189.62              | 0.00                       | 499.66            | 0.377 | 0.97              | 0.62            | 11.665    | B   |
| C-AB   | 41.41                 | 10.35                   | 41.49               | 0.00                       | 587.90            | 0.070 | 0.10              | 0.08            | 6.591     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 8.37                           | 0.56                                 | 11.384                                 | B                             | B                           |
| C-AB   | 1.12                           | 0.07                                 | 6.581                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 12.96                          | 0.86                                 | 14.888                                 | B                             | B                           |
| C-AB   | 1.43                           | 0.10                                 | 6.962                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 24.99                          | 1.67                                 | 24.778                                 | C                             | C                           |
| C-AB   | 1.89                           | 0.13                                 | 7.555                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 28.37                          | 1.89                                 | 25.935                                 | D                             | C                           |
| C-AB   | 1.91                           | 0.13                                 | 7.558                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 15.60                          | 1.04                                 | 15.532                                 | C                             | B                           |
| C-AB   | 1.45                           | 0.10                                 | 6.968                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.69                           | 0.65                                 | 11.665                                 | B                             | B                           |
| C-AB   | 1.14                           | 0.08                                 | 6.591                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(N)) 2023, AM | Forecast Background + EA2 Construction (A12(N)) 2023 | AM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 13.61              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 726.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 150.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 512.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 546.57                            | 583.83                              |                                  |                                        |
| 07:15-07:30  | B   | 112.93                            | 121.31                              |                                  |                                        |
| 07:15-07:30  | C   | 385.46                            | 408.12                              |                                  |                                        |
| 07:30-07:45  | A   | 652.66                            | 697.15                              |                                  |                                        |
| 07:30-07:45  | B   | 134.85                            | 144.86                              |                                  |                                        |
| 07:30-07:45  | C   | 460.28                            | 487.34                              |                                  |                                        |
| 07:45-08:00  | A   | 799.34                            | 853.83                              |                                  |                                        |
| 07:45-08:00  | B   | 165.15                            | 177.41                              |                                  |                                        |
| 07:45-08:00  | C   | 563.72                            | 596.87                              |                                  |                                        |
| 08:00-08:15  | A   | 799.34                            | 853.83                              |                                  |                                        |
| 08:00-08:15  | B   | 165.15                            | 177.41                              |                                  |                                        |
| 08:00-08:15  | C   | 563.72                            | 596.87                              |                                  |                                        |
| 08:15-08:30  | A   | 652.66                            | 697.15                              |                                  |                                        |
| 08:15-08:30  | B   | 134.85                            | 144.86                              |                                  |                                        |
| 08:15-08:30  | C   | 460.28                            | 487.34                              |                                  |                                        |
| 08:30-08:45  | A   | 546.57                            | 583.83                              |                                  |                                        |
| 08:30-08:45  | B   | 112.93                            | 121.31                              |                                  |                                        |
| 08:30-08:45  | C   | 385.46                            | 408.12                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|        | To      |         |         |
|--------|---------|---------|---------|
|        | A       | B       | C       |
| From A | 0.000   | 169.000 | 557.000 |
| From B | 78.000  | 0.000   | 72.000  |
| From C | 424.000 | 88.000  | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|        | To   |      |      |
|--------|------|------|------|
|        | A    | B    | C    |
| From A | 0.00 | 0.23 | 0.77 |
| From B | 0.52 | 0.00 | 0.48 |
| From C | 0.83 | 0.17 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.072 | 1.067 |
|      | B  | 1.116 | 1.000 | 1.029 |
|      | C  | 1.071 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |      |     |     |
|------|----|------|-----|-----|
|      |    | A    | B   | C   |
| From | A  | 0.0  | 7.2 | 6.7 |
|      | B  | 11.6 | 0.0 | 2.9 |
|      | C  | 7.1  | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.43    | 16.68         | 0.75            | C       | 137.64                  | 206.46                        | 44.77                          | 13.01                      | 0.50                                 | 44.78                                    | 13.01                                |
| C-AB   | 0.18    | 8.01          | 0.21            | A       | 80.76                   | 121.13                        | 14.67                          | 7.27                       | 0.16                                 | 14.67                                    | 7.27                                 |
| C-A    | -       | -             | -               | -       | 389.06                  | 583.60                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 155.08                  | 232.62                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 511.11                  | 766.67                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 112.93                | 28.23                   | 111.69              | 0.00                       | 471.23            | 0.240 | 0.00              | 0.31            | 9.980     | A   |
| C-AB   | 66.25                 | 16.56                   | 65.78               | 0.00                       | 619.74            | 0.107 | 0.00              | 0.12            | 6.493     | A   |
| C-A    | 319.21                | 79.80                   | 319.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 127.23                | 31.81                   | 127.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 419.34                | 104.83                  | 419.34              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 134.85                | 33.71                   | 134.32              | 0.00                       | 433.88            | 0.311 | 0.31              | 0.44            | 11.995    | B   |
| C-AB   | 79.11                 | 19.78                   | 78.97               | 0.00                       | 589.02            | 0.134 | 0.12              | 0.15            | 7.056     | A   |
| C-A    | 381.17                | 95.29                   | 381.17              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 151.93                | 37.98                   | 151.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 500.73                | 125.18                  | 500.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 165.15                | 41.29                   | 163.95              | 0.00                       | 380.94            | 0.434 | 0.44              | 0.74            | 16.498    | C   |
| C-AB   | 96.90                 | 24.23                   | 96.67               | 0.00                       | 546.58            | 0.177 | 0.15              | 0.21            | 7.997     | A   |
| C-A    | 466.82                | 116.70                  | 466.82              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 186.07                | 46.52                   | 186.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 613.27                | 153.32                  | 613.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 165.15                | 41.29                   | 165.11              | 0.00                       | 380.86            | 0.434 | 0.74              | 0.75            | 16.675    | C   |
| C-AB   | 96.90                 | 24.23                   | 96.90               | 0.00                       | 546.58            | 0.177 | 0.21              | 0.21            | 8.005     | A   |
| C-A    | 466.82                | 116.70                  | 466.82              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 186.07                | 46.52                   | 186.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 613.27                | 153.32                  | 613.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 134.85                | 33.71                   | 136.02              | 0.00                       | 433.77            | 0.311 | 0.75              | 0.46            | 12.139    | B   |
| C-AB   | 79.11                 | 19.78                   | 79.34               | 0.00                       | 589.02            | 0.134 | 0.21              | 0.16            | 7.065     | A   |
| C-A    | 381.17                | 95.29                   | 381.17              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 151.93                | 37.98                   | 151.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 500.73                | 125.18                  | 500.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 112.93                | 28.23                   | 113.49              | 0.00                       | 471.06            | 0.240 | 0.46              | 0.32            | 10.085    | B   |
| C-AB   | 66.25                 | 16.56                   | 66.40               | 0.00                       | 619.74            | 0.107 | 0.16              | 0.12            | 6.509     | A   |
| C-A    | 319.21                | 79.80                   | 319.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 127.23                | 31.81                   | 127.23              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 419.34                | 104.83                  | 419.34              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.44                           | 0.30                                 | 9.980                                  | A                             | A                           |
| C-AB   | 1.77                           | 0.12                                 | 6.493                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.39                           | 0.43                                 | 11.995                                 | B                             | B                           |
| C-AB   | 2.31                           | 0.15                                 | 7.056                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.50                          | 0.70                                 | 16.498                                 | C                             | B                           |
| C-AB   | 3.20                           | 0.21                                 | 7.997                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.24                          | 0.75                                 | 16.675                                 | C                             | B                           |
| C-AB   | 3.23                           | 0.22                                 | 8.005                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.23                           | 0.48                                 | 12.139                                 | B                             | B                           |
| C-AB   | 2.35                           | 0.16                                 | 7.065                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.97                           | 0.33                                 | 10.085                                 | B                             | B                           |
| C-AB   | 1.81                           | 0.12                                 | 6.509                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(N)) 2023, PM | Forecast Background + EA2 Construction (A12(N)) 2023 | PM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 24.64              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |



# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 594.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 249.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 622.00                       | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 447.19                            | 472.83                              |                                  |                                        |
| 16:15-16:30  | B   | 187.46                            | 193.43                              |                                  |                                        |
| 16:15-16:30  | C   | 468.27                            | 484.67                              |                                  |                                        |
| 16:30-16:45  | A   | 533.99                            | 564.60                              |                                  |                                        |
| 16:30-16:45  | B   | 223.85                            | 230.97                              |                                  |                                        |
| 16:30-16:45  | C   | 559.17                            | 578.74                              |                                  |                                        |
| 16:45-17:00  | A   | 654.01                            | 691.49                              |                                  |                                        |
| 16:45-17:00  | B   | 274.15                            | 282.88                              |                                  |                                        |
| 16:45-17:00  | C   | 684.83                            | 708.81                              |                                  |                                        |
| 17:00-17:15  | A   | 654.01                            | 691.49                              |                                  |                                        |
| 17:00-17:15  | B   | 274.15                            | 282.88                              |                                  |                                        |
| 17:00-17:15  | C   | 684.83                            | 708.81                              |                                  |                                        |
| 17:15-17:30  | A   | 533.99                            | 564.60                              |                                  |                                        |
| 17:15-17:30  | B   | 223.85                            | 230.97                              |                                  |                                        |
| 17:15-17:30  | C   | 559.17                            | 578.74                              |                                  |                                        |
| 17:30-17:45  | A   | 447.19                            | 472.83                              |                                  |                                        |
| 17:30-17:45  | B   | 187.46                            | 193.43                              |                                  |                                        |
| 17:30-17:45  | C   | 468.27                            | 484.67                              |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 73.000 | 521.000 |
|      | B  | 147.000 | 0.000  | 102.000 |
|      | C  | 573.000 | 49.000 | 0.000   |

### Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.59 | 0.00 | 0.41 |
|      | C  | 0.92 | 0.08 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.081 | 1.054 |
|      | B  | 1.047 | 1.000 | 1.010 |
|      | C  | 1.038 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 8.1 | 5.4 |
|      | B  | 4.7 | 0.0 | 1.0 |
|      | C  | 3.8 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.68    | 28.07         | 2.06            | D       | 228.49                  | 342.73                        | 105.12                         | 18.40                      | 1.17                                 | 105.14                                   | 18.41                                |
| C-AB   | 0.09    | 6.71          | 0.10            | A       | 44.96                   | 67.45                         | 7.08                           | 6.30                       | 0.08                                 | 7.08                                     | 6.30                                 |
| C-A    | -       | -             | -               | -       | 525.79                  | 788.69                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 66.99                   | 100.48                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 478.08                  | 717.12                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 187.46                | 46.87                   | 185.04              | 0.00                       | 490.38            | 0.382 | 0.00              | 0.61            | 11.700    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.65               | 0.00                       | 649.84            | 0.057 | 0.00              | 0.06            | 5.871     | A   |
| C-A    | 431.38                | 107.85                  | 431.38              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 54.96                 | 13.74                   | 54.96               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 392.24                | 98.06                   | 392.24              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 223.85                | 55.96                   | 222.49              | 0.00                       | 453.49            | 0.494 | 0.61              | 0.94            | 15.491    | C   |
| C-AB   | 44.05                 | 11.01                   | 43.99               | 0.00                       | 624.95            | 0.070 | 0.06              | 0.08            | 6.196     | A   |
| C-A    | 515.12                | 128.78                  | 515.12              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 65.63                 | 16.41                   | 65.63               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 468.37                | 117.09                  | 468.37              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 274.16                | 68.54                   | 270.01              | 0.00                       | 401.28            | 0.683 | 0.94              | 1.98            | 26.609    | D   |
| C-AB   | 53.95                 | 13.49                   | 53.85               | 0.00                       | 590.55            | 0.091 | 0.08              | 0.10            | 6.708     | A   |
| C-A    | 630.88                | 157.72                  | 630.88              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 80.37                 | 20.09                   | 80.37               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 573.63                | 143.41                  | 573.63              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 274.16                | 68.54                   | 273.83              | 0.00                       | 401.24            | 0.683 | 1.98              | 2.06            | 28.065    | D   |
| C-AB   | 53.95                 | 13.49                   | 53.95               | 0.00                       | 590.55            | 0.091 | 0.10              | 0.10            | 6.708     | A   |
| C-A    | 630.88                | 157.72                  | 630.88              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 80.37                 | 20.09                   | 80.37               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 573.63                | 143.41                  | 573.63              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 223.85                | 55.96                   | 228.06              | 0.00                       | 453.44            | 0.494 | 2.06              | 1.01            | 16.254    | C   |
| C-AB   | 44.05                 | 11.01                   | 44.15               | 0.00                       | 624.95            | 0.070 | 0.10              | 0.08            | 6.201     | A   |
| C-A    | 515.12                | 128.78                  | 515.12              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 65.63                 | 16.41                   | 65.63               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 468.37                | 117.09                  | 468.37              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 187.46                | 46.87                   | 188.96              | 0.00                       | 490.29            | 0.382 | 1.01              | 0.63            | 12.005    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.95               | 0.00                       | 649.84            | 0.057 | 0.08              | 0.06            | 5.876     | A   |
| C-A    | 431.38                | 107.85                  | 431.38              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 54.96                 | 13.74                   | 54.96               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 392.24                | 98.06                   | 392.24              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 8.55                           | 0.57                                 | 11.700                                 | B                             | B                           |
| C-AB   | 0.89                           | 0.06                                 | 5.871                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 13.39                          | 0.89                                 | 15.491                                 | C                             | B                           |
| C-AB   | 1.13                           | 0.08                                 | 6.196                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 26.51                          | 1.77                                 | 26.609                                 | D                             | C                           |
| C-AB   | 1.50                           | 0.10                                 | 6.708                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 30.42                          | 2.03                                 | 28.065                                 | D                             | C                           |
| C-AB   | 1.51                           | 0.10                                 | 6.708                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 16.30                          | 1.09                                 | 16.254                                 | C                             | B                           |
| C-AB   | 1.15                           | 0.08                                 | 6.201                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.95                           | 0.66                                 | 12.005                                 | B                             | B                           |
| C-AB   | 0.91                           | 0.06                                 | 5.876                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM | Forecast Background + EA2 + EA1N Construction (A12(S)) 2023 | AM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 13.28              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 730.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 153.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 514.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 549.58                            | 577.49                              |                                  |                                        |
| 07:15-07:30  | B   | 115.19                            | 125.72                              |                                  |                                        |
| 07:15-07:30  | C   | 386.97                            | 409.32                              |                                  |                                        |
| 07:30-07:45  | A   | 656.26                            | 689.58                              |                                  |                                        |
| 07:30-07:45  | B   | 137.54                            | 150.12                              |                                  |                                        |
| 07:30-07:45  | C   | 462.08                            | 488.77                              |                                  |                                        |
| 07:45-08:00  | A   | 803.74                            | 844.56                              |                                  |                                        |
| 07:45-08:00  | B   | 168.46                            | 183.86                              |                                  |                                        |
| 07:45-08:00  | C   | 565.92                            | 598.62                              |                                  |                                        |
| 08:00-08:15  | A   | 803.74                            | 844.56                              |                                  |                                        |
| 08:00-08:15  | B   | 168.46                            | 183.86                              |                                  |                                        |
| 08:00-08:15  | C   | 565.92                            | 598.62                              |                                  |                                        |
| 08:15-08:30  | A   | 656.26                            | 689.58                              |                                  |                                        |
| 08:15-08:30  | B   | 137.54                            | 150.12                              |                                  |                                        |
| 08:15-08:30  | C   | 462.08                            | 488.77                              |                                  |                                        |
| 08:30-08:45  | A   | 549.58                            | 577.49                              |                                  |                                        |
| 08:30-08:45  | B   | 115.19                            | 125.72                              |                                  |                                        |
| 08:30-08:45  | C   | 386.97                            | 409.32                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 181.000 | 549.000 |
|      | B  | 73.000  | 0.000   | 80.000  |
|      | C  | 416.000 | 98.000  | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.25 | 0.75 |
|      | B  | 0.48 | 0.00 | 0.52 |
|      | C  | 0.81 | 0.19 | 0.00 |



# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.041 | 1.054 |
|      | B  | 1.058 | 1.000 | 1.122 |
|      | C  | 1.053 | 1.078 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |      |
|------|----|-----|-----|------|
|      |    | A   | B   | C    |
| From | A  | 0.0 | 4.1 | 5.4  |
|      | B  | 5.8 | 0.0 | 12.2 |
|      | C  | 5.3 | 7.8 | 0.0  |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.43    | 16.01         | 0.74            | C       | 140.40                  | 210.59                        | 44.26                          | 12.61                      | 0.49                                 | 44.26                                    | 12.61                                |
| C-AB   | 0.21    | 8.96          | 0.27            | A       | 89.96                   | 134.93                        | 18.16                          | 8.07                       | 0.20                                 | 18.16                                    | 8.07                                 |
| C-A    | -       | -             | -               | -       | 381.70                  | 572.55                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 166.09                  | 249.13                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 503.77                  | 755.66                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 115.19                | 28.80                   | 113.94              | 0.00                       | 480.80            | 0.240 | 0.00              | 0.31            | 9.780     | A   |
| C-AB   | 73.78                 | 18.45                   | 73.20               | 0.00                       | 576.50            | 0.128 | 0.00              | 0.15            | 7.146     | A   |
| C-A    | 313.18                | 78.30                   | 313.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 136.27                | 34.07                   | 136.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 137.54                | 34.39                   | 137.03              | 0.00                       | 444.71            | 0.309 | 0.31              | 0.44            | 11.680    | B   |
| C-AB   | 88.11                 | 22.03                   | 87.94               | 0.00                       | 548.35            | 0.161 | 0.15              | 0.19            | 7.813     | A   |
| C-A    | 373.96                | 93.49                   | 373.96              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 162.72                | 40.68                   | 162.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 168.46                | 42.11                   | 167.31              | 0.00                       | 393.31            | 0.428 | 0.44              | 0.73            | 15.845    | C   |
| C-AB   | 107.97                | 26.99                   | 107.67              | 0.00                       | 509.56            | 0.212 | 0.19              | 0.27            | 8.951     | A   |
| C-A    | 457.95                | 114.49                  | 457.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 199.28                | 49.82                   | 199.28              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 168.46                | 42.11                   | 168.41              | 0.00                       | 393.22            | 0.428 | 0.73              | 0.74            | 16.005    | C   |
| C-AB   | 107.97                | 26.99                   | 107.97              | 0.00                       | 509.55            | 0.212 | 0.27              | 0.27            | 8.964     | A   |
| C-A    | 457.95                | 114.49                  | 457.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 199.28                | 49.82                   | 199.28              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 137.54                | 34.39                   | 138.67              | 0.00                       | 444.58            | 0.309 | 0.74              | 0.46            | 11.810    | B   |
| C-AB   | 88.11                 | 22.03                   | 88.41               | 0.00                       | 548.34            | 0.161 | 0.27              | 0.19            | 7.831     | A   |
| C-A    | 373.96                | 93.49                   | 373.96              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 162.72                | 40.68                   | 162.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 115.19                | 28.80                   | 115.73              | 0.00                       | 480.60            | 0.240 | 0.46              | 0.32            | 9.883     | A   |
| C-AB   | 73.78                 | 18.45                   | 73.96               | 0.00                       | 576.50            | 0.128 | 0.19              | 0.15            | 7.168     | A   |
| C-A    | 313.18                | 78.30                   | 313.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 136.27                | 34.07                   | 136.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.44                           | 0.30                                 | 9.780                                  | A                             | A                           |
| C-AB   | 2.16                           | 0.14                                 | 7.146                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.36                           | 0.42                                 | 11.680                                 | B                             | B                           |
| C-AB   | 2.85                           | 0.19                                 | 7.813                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.32                          | 0.69                                 | 15.845                                 | C                             | B                           |
| C-AB   | 3.99                           | 0.27                                 | 8.951                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.01                          | 0.73                                 | 16.005                                 | C                             | B                           |
| C-AB   | 4.03                           | 0.27                                 | 8.964                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.16                           | 0.48                                 | 11.810                                 | B                             | B                           |
| C-AB   | 2.91                           | 0.19                                 | 7.831                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.96                           | 0.33                                 | 9.883                                  | A                             | A                           |
| C-AB   | 2.22                           | 0.15                                 | 7.168                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM | Forecast Background + EA2 + EA1N Construction (A12(S)) 2023 | PM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 27.55              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 582.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 270.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 621.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 16:15-16:30  | B   | 203.27                            | 211.39                              |                                  |                                        |
| 16:15-16:30  | C   | 467.52                            | 483.42                              |                                  |                                        |
| 16:30-16:45  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 16:30-16:45  | B   | 242.72                            | 252.42                              |                                  |                                        |
| 16:30-16:45  | C   | 558.27                            | 577.25                              |                                  |                                        |
| 16:45-17:00  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 16:45-17:00  | B   | 297.28                            | 309.16                              |                                  |                                        |
| 16:45-17:00  | C   | 683.73                            | 706.99                              |                                  |                                        |
| 17:00-17:15  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 17:00-17:15  | B   | 297.28                            | 309.16                              |                                  |                                        |
| 17:00-17:15  | C   | 683.73                            | 706.99                              |                                  |                                        |
| 17:15-17:30  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 17:15-17:30  | B   | 242.72                            | 252.42                              |                                  |                                        |
| 17:15-17:30  | C   | 558.27                            | 577.25                              |                                  |                                        |
| 17:30-17:45  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 17:30-17:45  | B   | 203.27                            | 211.39                              |                                  |                                        |
| 17:30-17:45  | C   | 467.52                            | 483.42                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 68.000 | 514.000 |
|      | B  | 158.000 | 0.000  | 112.000 |
|      | C  | 565.000 | 56.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.59 | 0.00 | 0.41 |
|      | C  | 0.91 | 0.09 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.016 | 1.039 |
|      | B  | 1.013 | 1.000 | 1.078 |
|      | C  | 1.024 | 1.135 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 1.6  | 3.9 |
|      | B  | 1.3 | 0.0  | 7.8 |
|      | C  | 2.4 | 13.5 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.73    | 32.04         | 2.53            | D       | 247.76                  | 371.64                        | 124.05                         | 20.03                      | 1.38                                 | 124.08                                   | 20.03                                |
| C-AB   | 0.12    | 7.74          | 0.13            | A       | 51.39                   | 77.08                         | 9.31                           | 7.24                       | 0.10                                 | 9.31                                     | 7.24                                 |
| C-A    | -       | -             | -               | -       | 518.45                  | 777.68                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 62.40                   | 93.60                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 471.66                  | 707.48                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 203.27                | 50.82                   | 200.55              | 0.00                       | 494.95            | 0.411 | 0.00              | 0.68            | 12.122    | B   |
| C-AB   | 42.16                 | 10.54                   | 41.85               | 0.00                       | 577.03            | 0.073 | 0.00              | 0.08            | 6.724     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 242.73                | 60.68                   | 241.12              | 0.00                       | 458.94            | 0.529 | 0.68              | 1.08            | 16.402    | C   |
| C-AB   | 50.34                 | 12.59                   | 50.26               | 0.00                       | 555.98            | 0.091 | 0.08              | 0.10            | 7.118     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 297.28                | 74.32                   | 291.99              | 0.00                       | 407.90            | 0.729 | 1.08              | 2.41            | 29.767    | D   |
| C-AB   | 61.66                 | 15.42                   | 61.53               | 0.00                       | 526.89            | 0.117 | 0.10              | 0.13            | 7.734     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 297.28                | 74.32                   | 296.78              | 0.00                       | 407.85            | 0.729 | 2.41              | 2.53            | 32.039    | D   |
| C-AB   | 61.66                 | 15.42                   | 61.66               | 0.00                       | 526.89            | 0.117 | 0.13              | 0.13            | 7.737     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 242.73                | 60.68                   | 248.19              | 0.00                       | 458.87            | 0.529 | 2.53              | 1.17            | 17.497    | C   |
| C-AB   | 50.34                 | 12.59                   | 50.47               | 0.00                       | 555.97            | 0.091 | 0.13              | 0.10            | 7.125     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 203.27                | 50.82                   | 205.08              | 0.00                       | 494.82            | 0.411 | 1.17              | 0.71            | 12.502    | B   |
| C-AB   | 42.16                 | 10.54                   | 42.24               | 0.00                       | 577.03            | 0.073 | 0.10              | 0.08            | 6.731     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.58                           | 0.64                                 | 12.122                                 | B                             | B                           |
| C-AB   | 1.16                           | 0.08                                 | 6.724                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 15.28                          | 1.02                                 | 16.402                                 | C                             | B                           |
| C-AB   | 1.48                           | 0.10                                 | 7.118                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 31.64                          | 2.11                                 | 29.767                                 | D                             | C                           |
| C-AB   | 1.97                           | 0.13                                 | 7.734                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 37.20                          | 2.48                                 | 32.039                                 | D                             | C                           |
| C-AB   | 1.99                           | 0.13                                 | 7.737                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 19.09                          | 1.27                                 | 17.497                                 | C                             | B                           |
| C-AB   | 1.51                           | 0.10                                 | 7.125                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.26                          | 0.75                                 | 12.502                                 | B                             | B                           |
| C-AB   | 1.19                           | 0.08                                 | 6.731                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM | Forecast Background + EA2 + EA1N Construction (A12(N)) 2023 | AM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 14.16              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 746.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 151.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 516.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 561.63                            | 601.64                              |                                  |                                        |
| 07:15-07:30  | B   | 113.68                            | 122.93                              |                                  |                                        |
| 07:15-07:30  | C   | 388.47                            | 412.85                              |                                  |                                        |
| 07:30-07:45  | A   | 670.64                            | 718.42                              |                                  |                                        |
| 07:30-07:45  | B   | 135.75                            | 146.78                              |                                  |                                        |
| 07:30-07:45  | C   | 463.87                            | 492.98                              |                                  |                                        |
| 07:45-08:00  | A   | 821.36                            | 879.88                              |                                  |                                        |
| 07:45-08:00  | B   | 166.25                            | 179.77                              |                                  |                                        |
| 07:45-08:00  | C   | 568.13                            | 603.77                              |                                  |                                        |
| 08:00-08:15  | A   | 821.36                            | 879.88                              |                                  |                                        |
| 08:00-08:15  | B   | 166.25                            | 179.77                              |                                  |                                        |
| 08:00-08:15  | C   | 568.13                            | 603.77                              |                                  |                                        |
| 08:15-08:30  | A   | 670.64                            | 718.42                              |                                  |                                        |
| 08:15-08:30  | B   | 135.75                            | 146.78                              |                                  |                                        |
| 08:15-08:30  | C   | 463.87                            | 492.98                              |                                  |                                        |
| 08:30-08:45  | A   | 561.63                            | 601.64                              |                                  |                                        |
| 08:30-08:45  | B   | 113.68                            | 122.93                              |                                  |                                        |
| 08:30-08:45  | C   | 388.47                            | 412.85                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |         |
|------|----|---------|---------|
|      | A  | B       | C       |
| From | A  | 0.000   | 187.000 |
|      | B  | 79.000  | 0.000   |
|      | C  | 426.000 | 90.000  |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |
|------|----|------|------|
|      | A  | B    | C    |
| From | A  | 0.00 | 0.25 |
|      | B  | 0.52 | 0.00 |
|      | C  | 0.83 | 0.17 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.072 | 1.071 |
|      | B  | 1.129 | 1.000 | 1.029 |
|      | C  | 1.076 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |      |     |     |
|------|----|------|-----|-----|
|      |    | A    | B   | C   |
| From | A  | 0.0  | 7.2 | 7.1 |
|      | B  | 12.9 | 0.0 | 2.9 |
|      | C  | 7.6  | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.45    | 17.46         | 0.79            | C       | 138.56                  | 207.84                        | 46.68                          | 13.48                      | 0.52                                 | 46.69                                    | 13.48                                |
| C-AB   | 0.18    | 8.17          | 0.22            | A       | 82.59                   | 123.89                        | 15.26                          | 7.39                       | 0.17                                 | 15.26                                    | 7.39                                 |
| C-A    | -       | -             | -               | -       | 390.90                  | 586.35                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 171.59                  | 257.39                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 512.95                  | 769.42                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 113.68                | 28.42                   | 112.40              | 0.00                       | 463.76            | 0.245 | 0.00              | 0.32            | 10.210    | B   |
| C-AB   | 67.76                 | 16.94                   | 67.27               | 0.00                       | 614.91            | 0.110 | 0.00              | 0.12            | 6.568     | A   |
| C-A    | 320.71                | 80.18                   | 320.71              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 140.78                | 35.20                   | 140.78              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 420.84                | 105.21                  | 420.84              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 135.75                | 33.94                   | 135.19              | 0.00                       | 425.93            | 0.319 | 0.32              | 0.46            | 12.353    | B   |
| C-AB   | 80.91                 | 20.23                   | 80.76               | 0.00                       | 583.25            | 0.139 | 0.12              | 0.16            | 7.162     | A   |
| C-A    | 382.96                | 95.74                   | 382.96              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 168.11                | 42.03                   | 168.11              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 502.53                | 125.63                  | 502.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 166.25                | 41.56                   | 164.97              | 0.00                       | 372.27            | 0.447 | 0.46              | 0.78            | 17.257    | C   |
| C-AB   | 99.11                 | 24.78                   | 98.86               | 0.00                       | 539.52            | 0.184 | 0.16              | 0.22            | 8.166     | A   |
| C-A    | 469.02                | 117.25                  | 469.02              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 205.89                | 51.47                   | 205.89              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 615.47                | 153.87                  | 615.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 166.25                | 41.56                   | 166.20              | 0.00                       | 372.19            | 0.447 | 0.78              | 0.79            | 17.465    | C   |
| C-AB   | 99.11                 | 24.78                   | 99.11               | 0.00                       | 539.53            | 0.184 | 0.22              | 0.22            | 8.173     | A   |
| C-A    | 469.02                | 117.25                  | 469.02              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 205.89                | 51.47                   | 205.89              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 615.47                | 153.87                  | 615.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 135.75                | 33.94                   | 137.01              | 0.00                       | 425.81            | 0.319 | 0.79              | 0.48            | 12.518    | B   |
| C-AB   | 80.91                 | 20.23                   | 81.16               | 0.00                       | 583.26            | 0.139 | 0.22              | 0.16            | 7.172     | A   |
| C-A    | 382.96                | 95.74                   | 382.96              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 168.11                | 42.03                   | 168.11              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 502.53                | 125.63                  | 502.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 113.68                | 28.42                   | 114.27              | 0.00                       | 463.59            | 0.245 | 0.48              | 0.33            | 10.324    | B   |
| C-AB   | 67.76                 | 16.94                   | 67.91               | 0.00                       | 614.91            | 0.110 | 0.16              | 0.12            | 6.584     | A   |
| C-A    | 320.71                | 80.18                   | 320.71              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 140.78                | 35.20                   | 140.78              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 420.84                | 105.21                  | 420.84              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.57                           | 0.30                                 | 10.210                                 | B                             | B                           |
| C-AB   | 1.83                           | 0.12                                 | 6.568                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.62                           | 0.44                                 | 12.353                                 | B                             | B                           |
| C-AB   | 2.40                           | 0.16                                 | 7.162                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.02                          | 0.73                                 | 17.257                                 | C                             | B                           |
| C-AB   | 3.34                           | 0.22                                 | 8.166                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.83                          | 0.79                                 | 17.465                                 | C                             | B                           |
| C-AB   | 3.38                           | 0.23                                 | 8.173                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.52                           | 0.50                                 | 12.518                                 | B                             | B                           |
| C-AB   | 2.44                           | 0.16                                 | 7.172                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 5.13                           | 0.34                                 | 10.324                                 | B                             | B                           |
| C-AB   | 1.87                           | 0.12                                 | 6.584                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM | Forecast Background + EA2 + EA1N Construction (A12(N)) 2023 | PM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 31.54              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |



# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 598.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 268.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 624.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 450.21                            | 478.38                              |                                  |                                        |
| 16:15-16:30  | B   | 201.76                            | 208.60                              |                                  |                                        |
| 16:15-16:30  | C   | 469.78                            | 487.96                              |                                  |                                        |
| 16:30-16:45  | A   | 537.59                            | 571.23                              |                                  |                                        |
| 16:30-16:45  | B   | 240.93                            | 249.09                              |                                  |                                        |
| 16:30-16:45  | C   | 560.96                            | 582.67                              |                                  |                                        |
| 16:45-17:00  | A   | 658.41                            | 699.61                              |                                  |                                        |
| 16:45-17:00  | B   | 295.07                            | 305.07                              |                                  |                                        |
| 16:45-17:00  | C   | 687.04                            | 713.63                              |                                  |                                        |
| 17:00-17:15  | A   | 658.41                            | 699.61                              |                                  |                                        |
| 17:00-17:15  | B   | 295.07                            | 305.07                              |                                  |                                        |
| 17:00-17:15  | C   | 687.04                            | 713.63                              |                                  |                                        |
| 17:15-17:30  | A   | 537.59                            | 571.23                              |                                  |                                        |
| 17:15-17:30  | B   | 240.93                            | 249.09                              |                                  |                                        |
| 17:15-17:30  | C   | 560.96                            | 582.67                              |                                  |                                        |
| 17:30-17:45  | A   | 450.21                            | 478.38                              |                                  |                                        |
| 17:30-17:45  | B   | 201.76                            | 208.60                              |                                  |                                        |
| 17:30-17:45  | C   | 469.78                            | 487.96                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 74.000 | 524.000 |
|      | B  | 164.000 | 0.000  | 104.000 |
|      | C  | 575.000 | 49.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.61 | 0.00 | 0.39 |
|      | C  | 0.92 | 0.08 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.095 | 1.058 |
|      | B  | 1.049 | 1.000 | 1.010 |
|      | C  | 1.042 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 9.5 | 5.8 |
|      | B  | 4.9 | 0.0 | 1.0 |
|      | C  | 4.2 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.75    | 35.93         | 2.80            | E       | 245.92                  | 368.88                        | 132.89                         | 21.61                      | 1.48                                 | 132.92                                   | 21.62                                |
| C-AB   | 0.09    | 6.74          | 0.10            | A       | 44.96                   | 67.45                         | 7.11                           | 6.32                       | 0.08                                 | 7.11                                     | 6.32                                 |
| C-A    | -       | -             | -               | -       | 527.63                  | 791.44                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 67.90                   | 101.86                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 480.83                  | 721.25                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 201.76                | 50.44                   | 198.96              | 0.00                       | 483.16            | 0.418 | 0.00              | 0.70            | 12.550    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.65               | 0.00                       | 648.33            | 0.057 | 0.00              | 0.06            | 5.885     | A   |
| C-A    | 432.89                | 108.22                  | 432.89              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 55.71                 | 13.93                   | 55.71               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 394.49                | 98.62                   | 394.49              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 240.93                | 60.23                   | 239.20              | 0.00                       | 445.83            | 0.540 | 0.70              | 1.13            | 17.273    | C   |
| C-AB   | 44.05                 | 11.01                   | 43.99               | 0.00                       | 623.15            | 0.071 | 0.06              | 0.08            | 6.215     | A   |
| C-A    | 516.91                | 129.23                  | 516.91              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 66.52                 | 16.63                   | 66.52               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 471.07                | 117.77                  | 471.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 295.07                | 73.77                   | 289.04              | 0.00                       | 393.05            | 0.751 | 1.13              | 2.64            | 32.843    | D   |
| C-AB   | 53.95                 | 13.49                   | 53.85               | 0.00                       | 588.34            | 0.092 | 0.08              | 0.10            | 6.735     | A   |
| C-A    | 633.09                | 158.27                  | 633.09              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 81.48                 | 20.37                   | 81.48               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 576.93                | 144.23                  | 576.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 295.07                | 73.77                   | 294.43              | 0.00                       | 393.01            | 0.751 | 2.64              | 2.80            | 35.927    | E   |
| C-AB   | 53.95                 | 13.49                   | 53.95               | 0.00                       | 588.34            | 0.092 | 0.10              | 0.10            | 6.735     | A   |
| C-A    | 633.09                | 158.27                  | 633.09              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 81.48                 | 20.37                   | 81.48               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 576.93                | 144.23                  | 576.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 240.93                | 60.23                   | 247.23              | 0.00                       | 445.78            | 0.540 | 2.80              | 1.22            | 18.658    | C   |
| C-AB   | 44.05                 | 11.01                   | 44.15               | 0.00                       | 623.15            | 0.071 | 0.10              | 0.08            | 6.220     | A   |
| C-A    | 516.91                | 129.23                  | 516.91              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 66.52                 | 16.63                   | 66.52               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 471.07                | 117.77                  | 471.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 201.76                | 50.44                   | 203.72              | 0.00                       | 483.07            | 0.418 | 1.22              | 0.73            | 12.977    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.95               | 0.00                       | 648.33            | 0.057 | 0.08              | 0.06            | 5.888     | A   |
| C-A    | 432.89                | 108.22                  | 432.89              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 55.71                 | 13.93                   | 55.71               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 394.49                | 98.62                   | 394.49              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.83                           | 0.66                                 | 12.550                                 | B                             | B                           |
| C-AB   | 0.89                           | 0.06                                 | 5.885                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 15.90                          | 1.06                                 | 17.273                                 | C                             | B                           |
| C-AB   | 1.14                           | 0.08                                 | 6.215                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 34.24                          | 2.28                                 | 32.843                                 | D                             | C                           |
| C-AB   | 1.50                           | 0.10                                 | 6.735                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 41.03                          | 2.74                                 | 35.927                                 | E                             | D                           |
| C-AB   | 1.51                           | 0.10                                 | 6.735                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 20.27                          | 1.35                                 | 18.658                                 | C                             | B                           |
| C-AB   | 1.15                           | 0.08                                 | 6.220                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

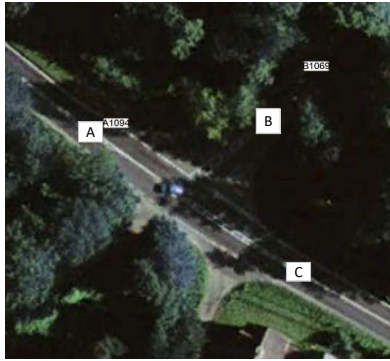
| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.63                          | 0.78                                 | 12.977                                 | B                             | B                           |
| C-AB   | 0.91                           | 0.06                                 | 5.888                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



# **East Anglia TWO Offshore Windfarm**

Junction 3

### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 6    | A   | A1094     |
| 9    | B   | B1069     |
| 8    | C   | A1094     |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

#### AM Peak Traffic

Wednesday 5th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 187 | 132 | 319    |
| B       | 260 | 0   | 15  | 275    |
| C       | 118 | 7   | 0   | 125    |
| Totals  | 378 | 194 | 147 | 719    |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 13 | 12 | 25     |
| B       | 11 | 0  | 0  | 11     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 14 | 13 | 12 | 39     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 200 | 144 | 344    |
| B       | 271 | 0   | 15  | 286    |
| C       | 121 | 7   | 0   | 128    |
| Totals  | 392 | 207 | 159 | 758    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

#### PM Peak Traffic

Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 251 | 194 | 445    |
| B       | 192 | 0   | 6   | 198    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 420 | 252 | 0   | 872    |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 253 | 196 | 449    |
| B       | 194 | 0   | 6   | 200    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 422 | 254 | 202 | 878    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |

## Forecast Flows (2023)

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 198 | 140 | 337    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 7   | 0   | 132    |
| Totals  | 400 | 205 | 155 | 761    |

#### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 14 | 13 | 26     |
| B       | 12 | 0  | 0  | 12     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 15 | 14 | 13 | 41     |

#### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 212 | 152 | 364    |
| B       | 287 | 0   | 16  | 303    |
| C       | 128 | 7   | 0   | 135    |
| Totals  | 415 | 219 | 168 | 802    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 203 | 0   | 6   | 210    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 445 | 267 | 212 | 923    |

#### Growth Factored HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

#### Growth Factored Total

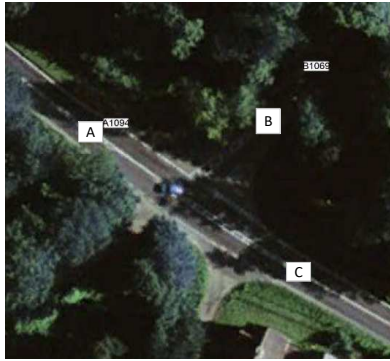
| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 268 | 208 | 475    |
| B       | 205 | 0   | 6   | 212    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 447 | 269 | 214 | 930    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |



### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 6    | A   | A1094     |
| 9    | B   | B1069     |
| 8    | C   | A1094     |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

### EA2 Construction Traffic (2023) 100% HGV Origin from A12 South

#### AM Peak Traffic

##### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 72 | 5 | 76     |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 19 | 0 | 19     |
| Totals  | 0 | 91 | 5 | 96     |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 10 | 0 | 10     |
| B       | 10 | 0  | 0 | 11     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 10 | 11 | 0 | 21     |

##### Total

| From/To | A  | B   | C | Totals |
|---------|----|-----|---|--------|
| A       | 0  | 82  | 5 | 87     |
| B       | 10 | 0   | 0 | 11     |
| C       | 0  | 20  | 0 | 20     |
| Totals  | 10 | 102 | 5 | 117    |

##### %HGV

| From/To | A      | B     | C      | Average |
|---------|--------|-------|--------|---------|
| A       | 0.0%   | 12.5% | 0.0%   | 4%      |
| B       | 100.0% | 0.0%  | 100.0% | 67%     |
| C       | 0.0%   | 1.8%  | 0.0%   | 1%      |
| Average | 33%    | 5%    | 33%    | 24%     |

#### PM Peak Traffic

##### Vehicles

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 72 | 0 | 19 | 91     |
| C       | 5  | 0 | 0  | 5      |
| Totals  | 76 | 0 | 19 | 96     |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 10 | 0 | 10     |
| B       | 10 | 0  | 0 | 11     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 10 | 11 | 0 | 21     |

##### Total

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 10 | 0  | 10     |
| B       | 82 | 0  | 20 | 102    |
| C       | 5  | 0  | 0  | 5      |
| Totals  | 87 | 11 | 20 | 117    |

##### %HGV

| From/To | A     | B      | C    | Average |
|---------|-------|--------|------|---------|
| A       | 0.0%  | 100.0% | 0.0% | 33%     |
| B       | 12.5% | 0.0%   | 1.8% | 5%      |
| C       | 0.0%  | 100.0% | 0.0% | 33%     |
| Average | 4%    | 67%    | 1%   | 24%     |

### Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 South

#### AM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 270 | 144 | 414    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 27  | 0   | 152    |
| Totals  | 400 | 296 | 160 | 857    |

##### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 24 | 13 | 37     |
| B       | 22 | 0  | 0  | 22     |
| C       | 3  | 0  | 0  | 4      |
| Totals  | 25 | 24 | 13 | 63     |

##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 294 | 157 | 451    |
| B       | 297 | 0   | 16  | 313    |
| C       | 128 | 27  | 0   | 155    |
| Totals  | 425 | 321 | 173 | 919    |

##### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 8.2% | 8.1% | 5%      |
| B       | 7.4% | 0.0% | 2.2% | 3%      |
| C       | 2.5% | 1.3% | 0.0% | 1%      |
| Average | 3%   | 3%   | 3%   | 3%      |

#### PM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 275 | 0   | 26  | 301    |
| C       | 246 | 1   | 0   | 247    |
| Totals  | 521 | 267 | 231 | 1019   |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 12 | 2 | 15     |
| B       | 12 | 0  | 0 | 13     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 12 | 13 | 2 | 28     |

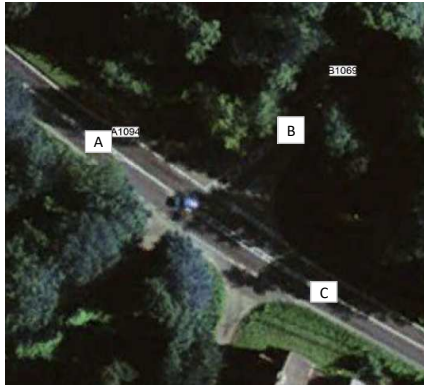
##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 278 | 208 | 486    |
| B       | 287 | 0   | 26  | 314    |
| C       | 246 | 1   | 0   | 248    |
| Totals  | 534 | 280 | 234 | 1047   |

##### %HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 4.5%  | 1.0% | 2%      |
| B       | 4.3% | 0.0%  | 1.4% | 2%      |
| C       | 0.0% | 25.4% | 0.0% | 8%      |
| Average | 1%   | 10%   | 1%   | 4%      |

### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 6    | A   | A1094     |
| 9    | B   | B1069     |
| 8    | C   | A1094     |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 187 | 132 | 319    |
| B       | 260 | 0   | 15  | 275    |
| C       | 118 | 7   | 0   | 125    |
| Totals  | 378 | 194 | 147 | 719    |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 13 | 12 | 25     |
| B       | 11 | 0  | 0  | 11     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 14 | 13 | 12 | 39     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 200 | 144 | 344    |
| B       | 271 | 0   | 15  | 286    |
| C       | 121 | 7   | 0   | 128    |
| Totals  | 392 | 207 | 159 | 758    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 251 | 194 | 445    |
| B       | 192 | 0   | 6   | 198    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 420 | 252 | 0   | 872    |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 253 | 196 | 449    |
| B       | 194 | 0   | 6   | 200    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 422 | 254 | 202 | 878    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |

## Forecast Flows (2023)

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 198 | 140 | 337    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 7   | 0   | 132    |
| Totals  | 400 | 205 | 155 | 761    |

#### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 14 | 13 | 26     |
| B       | 12 | 0  | 0  | 12     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 15 | 14 | 13 | 41     |

#### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 212 | 152 | 364    |
| B       | 287 | 0   | 16  | 303    |
| C       | 128 | 7   | 0   | 135    |
| Totals  | 415 | 219 | 168 | 802    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 203 | 0   | 6   | 210    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 445 | 267 | 212 | 923    |

#### Growth Factored HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

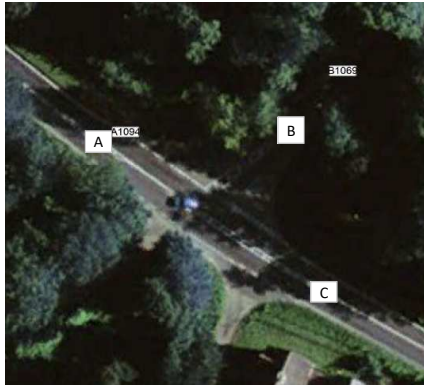
#### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 268 | 208 | 475    |
| B       | 205 | 0   | 6   | 212    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 447 | 269 | 214 | 930    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |

### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| 6    | A   | A1094     |
| 9    | B   | B1069     |
| 8    | C   | A1094     |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

### EA2 Construction Traffic (2023) - 100% HGV Origin from A12 north

#### AM Peak Traffic

##### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 72 | 5 | 76     |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 19 | 0 | 19     |
| Totals  | 0 | 91 | 5 | 96     |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 10 | 0 | 10     |
| B       | 10 | 0  | 0 | 11     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 10 | 11 | 0 | 21     |

##### Total

| From/To | A  | B   | C | Totals |
|---------|----|-----|---|--------|
| A       | 0  | 82  | 5 | 87     |
| B       | 10 | 0   | 0 | 11     |
| C       | 0  | 20  | 0 | 20     |
| Totals  | 10 | 102 | 5 | 117    |

##### %HGV

| From/To | A      | B     | C      | Average |
|---------|--------|-------|--------|---------|
| A       | 0.0%   | 12.5% | 0.0%   | 4%      |
| B       | 100.0% | 0.0%  | 100.0% | 67%     |
| C       | 0.0%   | 1.8%  | 0.0%   | 1%      |
| Average | 33%    | 5%    | 33%    | 24%     |

#### PM Peak Traffic

##### Vehicles

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 72 | 0 | 19 | 91     |
| C       | 5  | 0 | 0  | 5      |
| Totals  | 76 | 0 | 19 | 96     |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 10 | 0 | 10     |
| B       | 10 | 0  | 0 | 11     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 10 | 11 | 0 | 21     |

##### Total

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 10 | 0  | 10     |
| B       | 82 | 0  | 20 | 102    |
| C       | 5  | 0  | 0  | 5      |
| Totals  | 87 | 11 | 20 | 117    |

##### %HGV

| From/To | A     | B      | C    | Average |
|---------|-------|--------|------|---------|
| A       | 0.0%  | 100.0% | 0.0% | 33%     |
| B       | 12.5% | 0.0%   | 1.8% | 5%      |
| C       | 0.0%  | 100.0% | 0.0% | 33%     |
| Average | 4%    | 67%    | 1%   | 24%     |

### Forecast Flows + EA2 Construction Traffic (2023) 100% HGV Origin from A12 north

#### AM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 270 | 144 | 414    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 27  | 0   | 152    |
| Totals  | 400 | 296 | 160 | 857    |

##### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 24 | 13 | 37     |
| B       | 22 | 0  | 0  | 22     |
| C       | 3  | 0  | 0  | 4      |
| Totals  | 25 | 24 | 13 | 63     |

##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 294 | 157 | 451    |
| B       | 297 | 0   | 16  | 313    |
| C       | 128 | 27  | 0   | 155    |
| Totals  | 425 | 321 | 173 | 919    |

##### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 8.2% | 8.1% | 5%      |
| B       | 7.4% | 0.0% | 2.2% | 3%      |
| C       | 2.5% | 1.3% | 0.0% | 1%      |
| Average | 3%   | 3%   | 3%   | 3%      |

#### PM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 275 | 0   | 26  | 301    |
| C       | 246 | 1   | 0   | 247    |
| Totals  | 521 | 267 | 231 | 1019   |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 12 | 2 | 15     |
| B       | 12 | 0  | 0 | 13     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 12 | 13 | 2 | 28     |

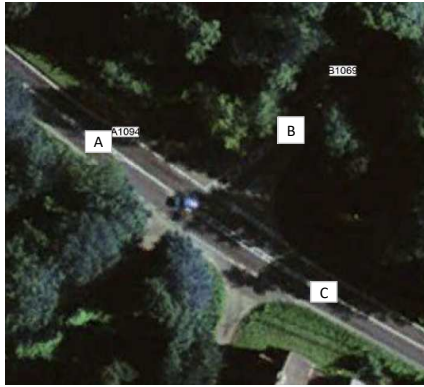
##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 278 | 208 | 486    |
| B       | 287 | 0   | 26  | 314    |
| C       | 246 | 1   | 0   | 248    |
| Totals  | 534 | 280 | 234 | 1047   |

##### %HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 4.5%  | 1.0% | 2%      |
| B       | 4.3% | 0.0%  | 1.4% | 2%      |
| C       | 0.0% | 25.4% | 0.0% | 8%      |
| Average | 1%   | 10%   | 1%   | 4%      |

### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name  |
|------|-----|------------|
| 6    | A   | A1094 west |
| 9    | B   | B1069      |
| 8    | C   | A1094 east |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 187 | 132 | 319    |
| B       | 260 | 0   | 15  | 275    |
| C       | 118 | 7   | 0   | 125    |
| Totals  | 378 | 194 | 147 | 719    |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 13 | 12 | 25     |
| B       | 11 | 0  | 0  | 11     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 14 | 13 | 12 | 39     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 200 | 144 | 344    |
| B       | 271 | 0   | 15  | 286    |
| C       | 121 | 7   | 0   | 128    |
| Totals  | 392 | 207 | 159 | 758    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 251 | 194 | 445    |
| B       | 192 | 0   | 6   | 198    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 420 | 252 | 0   | 872    |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 253 | 196 | 449    |
| B       | 194 | 0   | 6   | 200    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 422 | 254 | 202 | 878    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |

## Forecast Flows (2023)

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 198 | 140 | 337    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 7   | 0   | 132    |
| Totals  | 400 | 205 | 155 | 761    |

#### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 14 | 13 | 26     |
| B       | 12 | 0  | 0  | 12     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 15 | 14 | 13 | 41     |

#### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 212 | 152 | 364    |
| B       | 287 | 0   | 16  | 303    |
| C       | 128 | 7   | 0   | 135    |
| Totals  | 415 | 219 | 168 | 802    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 203 | 0   | 6   | 210    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 445 | 267 | 212 | 923    |

#### Growth Factored HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

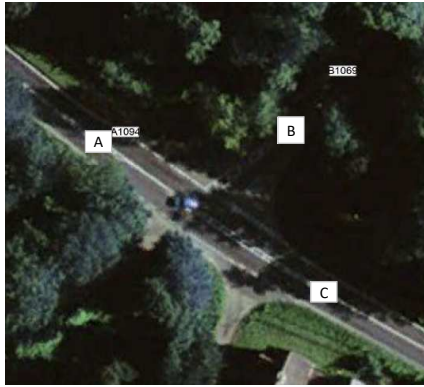
#### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 268 | 208 | 475    |
| B       | 205 | 0   | 6   | 212    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 447 | 269 | 214 | 930    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |

### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name  |
|------|-----|------------|
| 6    | A   | A1094 west |
| 9    | B   | B1069      |
| 8    | C   | A1094 east |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

### EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South

#### AM Peak Traffic

##### Vehicles

| From/To | A | B   | C | Totals |
|---------|---|-----|---|--------|
| A       | 0 | 84  | 0 | 84     |
| B       | 0 | 0   | 0 | 0      |
| C       | 0 | 25  | 0 | 25     |
| Totals  | 0 | 109 | 0 | 109    |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 13 | 0 | 13     |
| B       | 13 | 0  | 0 | 13     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 13 | 13 | 0 | 27     |

##### Total

| From/To | A  | B   | C | Totals |
|---------|----|-----|---|--------|
| A       | 0  | 97  | 0 | 97     |
| B       | 13 | 0   | 0 | 13     |
| C       | 0  | 25  | 0 | 25     |
| Totals  | 13 | 123 | 0 | 136    |

##### %HGV

| From/To | A      | B     | C      | Average |
|---------|--------|-------|--------|---------|
| A       | 0.0%   | 13.2% | 0.0%   | 4%      |
| B       | 100.0% | 0.0%  | 100.0% | 67%     |
| C       | 0.0%   | 1.7%  | 0.0%   | 1%      |
| Average | 33%    | 5%    | 33%    | 24%     |

#### PM Peak Traffic

##### Vehicles

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 84 | 0 | 25 | 109    |
| C       | 0  | 0 | 0  | 0      |
| Totals  | 84 | 0 | 25 | 109    |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 13 | 0 | 13     |
| B       | 13 | 0  | 0 | 13     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 13 | 13 | 0 | 27     |

##### Total

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 13 | 0  | 13     |
| B       | 97 | 0  | 25 | 123    |
| C       | 0  | 0  | 0  | 0      |
| Totals  | 97 | 13 | 25 | 136    |

##### %HGV

| From/To | A     | B      | C    | Average |
|---------|-------|--------|------|---------|
| A       | 0.0%  | 100.0% | 0.0% | 33%     |
| B       | 13.2% | 0.0%   | 1.7% | 5%      |
| C       | 0.0%  | 100.0% | 0.0% | 33%     |
| Average | 4%    | 67%    | 1%   | 24%     |

### Forecast Flows + EA2 + EA1N Construction Traffic (2023) 100% HGV Origin from A12 South

#### AM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 282 | 140 | 422    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 32  | 0   | 157    |
| Totals  | 400 | 315 | 155 | 870    |

##### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 27 | 13 | 39     |
| B       | 24 | 0  | 0  | 25     |
| C       | 3  | 0  | 0  | 4      |
| Totals  | 28 | 27 | 13 | 68     |

##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 309 | 152 | 461    |
| B       | 299 | 0   | 16  | 316    |
| C       | 128 | 33  | 0   | 161    |
| Totals  | 427 | 342 | 169 | 938    |

##### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 8.6% | 8.3% | 6%      |
| B       | 8.2% | 0.0% | 2.7% | 4%      |
| C       | 2.5% | 1.3% | 0.0% | 1%      |
| Average | 4%   | 3%   | 4%   | 4%      |

#### PM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 288 | 0   | 31  | 319    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 529 | 267 | 237 | 1033   |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 15 | 2 | 17     |
| B       | 15 | 0  | 0 | 15     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 15 | 15 | 3 | 33     |

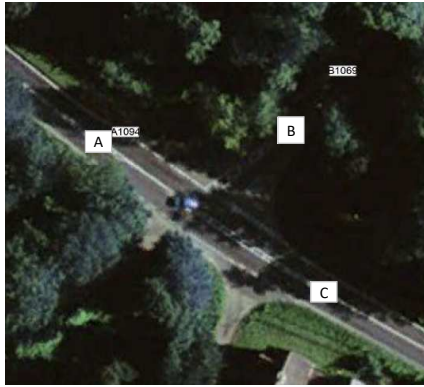
##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 281 | 208 | 488    |
| B       | 303 | 0   | 32  | 334    |
| C       | 241 | 1   | 0   | 243    |
| Totals  | 544 | 282 | 239 | 1066   |

##### %HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 5.3%  | 1.0% | 2%      |
| B       | 4.9% | 0.0%  | 1.4% | 2%      |
| C       | 0.0% | 29.4% | 0.0% | 10%     |
| Average | 2%   | 12%   | 1%   | 5%      |

### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name  |
|------|-----|------------|
| 6    | A   | A1094 west |
| 9    | B   | B1069      |
| 8    | C   | A1094 east |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:30AM - 08:30AM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 187 | 132 | 319    |
| B       | 260 | 0   | 15  | 275    |
| C       | 118 | 7   | 0   | 125    |
| Totals  | 378 | 194 | 147 | 719    |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 13 | 12 | 25     |
| B       | 11 | 0  | 0  | 11     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 14 | 13 | 12 | 39     |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 200 | 144 | 344    |
| B       | 271 | 0   | 15  | 286    |
| C       | 121 | 7   | 0   | 128    |
| Totals  | 392 | 207 | 159 | 758    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 4:30PM - 5:30PM

#### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 251 | 194 | 445    |
| B       | 192 | 0   | 6   | 198    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 420 | 252 | 0   | 872    |

#### HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

#### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 253 | 196 | 449    |
| B       | 194 | 0   | 6   | 200    |
| C       | 228 | 1   | 0   | 229    |
| Totals  | 422 | 254 | 202 | 878    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |

## Forecast Flows (2023)

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 198 | 140 | 337    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 7   | 0   | 132    |
| Totals  | 400 | 205 | 155 | 761    |

#### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 14 | 13 | 26     |
| B       | 12 | 0  | 0  | 12     |
| C       | 3  | 0  | 0  | 3      |
| Totals  | 15 | 14 | 13 | 41     |

#### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 212 | 152 | 364    |
| B       | 287 | 0   | 16  | 303    |
| C       | 128 | 7   | 0   | 135    |
| Totals  | 415 | 219 | 168 | 802    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 6.5% | 8.3% | 5%      |
| B       | 4.1% | 0.0% | 0.0% | 1%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 2%   | 3%   | 2%      |

#### Growth Factored Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 203 | 0   | 6   | 210    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 445 | 267 | 212 | 923    |

#### Growth Factored HGVs

| From/To | A | B | C | Totals |
|---------|---|---|---|--------|
| A       | 0 | 2 | 2 | 4      |
| B       | 2 | 0 | 0 | 2      |
| C       | 0 | 0 | 0 | 0      |
| Totals  | 2 | 2 | 2 | 6      |

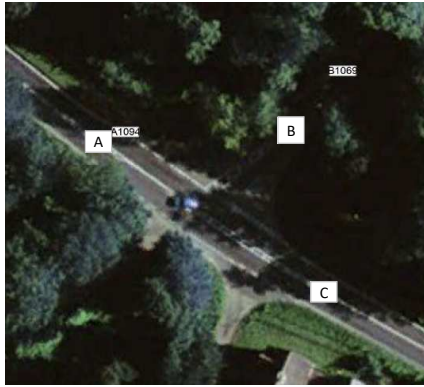
#### Growth Factored Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 268 | 208 | 475    |
| B       | 205 | 0   | 6   | 212    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 447 | 269 | 214 | 930    |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.8% | 1.0% | 1%      |
| B       | 1.0% | 0.0% | 0.0% | 0%      |
| C       | 0.0% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 0%   | 0%      |

### Junction 3 - A1094 / B1069 Junction



#### Notes

| Link | Arm | Road Name  |
|------|-----|------------|
| 6    | A   | A1094 west |
| 9    | B   | B1069      |
| 8    | C   | A1094 east |

| Growth Factor | AM Peak | PM Peak |
|---------------|---------|---------|
| All Vehicles  | 1.0578  | 1.0588  |

### EA2 + EA1N Northbound Construction Traffic (2023)

#### AM Peak Traffic

##### Vehicles

| From/To | A | B   | C | Totals |
|---------|---|-----|---|--------|
| A       | 0 | 84  | 0 | 84     |
| B       | 0 | 0   | 0 | 0      |
| C       | 0 | 25  | 0 | 25     |
| Totals  | 0 | 109 | 0 | 109    |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 13 | 0 | 13     |
| B       | 13 | 0  | 0 | 13     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 13 | 13 | 0 | 27     |

##### Total

| From/To | A  | B   | C | Totals |
|---------|----|-----|---|--------|
| A       | 0  | 97  | 0 | 97     |
| B       | 13 | 0   | 0 | 13     |
| C       | 0  | 25  | 0 | 25     |
| Totals  | 13 | 123 | 0 | 136    |

##### %HGV

| From/To | A      | B     | C      | Average |
|---------|--------|-------|--------|---------|
| A       | 0.0%   | 13.2% | 0.0%   | 4%      |
| B       | 100.0% | 0.0%  | 100.0% | 67%     |
| C       | 0.0%   | 1.7%  | 0.0%   | 1%      |
| Average | 33%    | 5%    | 33%    | 24%     |

#### PM Peak Traffic

##### Vehicles

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 0  | 0      |
| B       | 84 | 0 | 25 | 109    |
| C       | 0  | 0 | 0  | 0      |
| Totals  | 84 | 0 | 25 | 109    |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 13 | 0 | 13     |
| B       | 13 | 0  | 0 | 13     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 13 | 13 | 0 | 27     |

##### Total

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 13 | 0  | 13     |
| B       | 97 | 0  | 25 | 123    |
| C       | 0  | 0  | 0  | 0      |
| Totals  | 97 | 13 | 25 | 136    |

##### %HGV

| From/To | A     | B      | C    | Average |
|---------|-------|--------|------|---------|
| A       | 0.0%  | 100.0% | 0.0% | 33%     |
| B       | 13.2% | 0.0%   | 1.7% | 5%      |
| C       | 0.0%  | 100.0% | 0.0% | 33%     |
| Average | 4%    | 67%    | 1%   | 24%     |

### Forecast Flows + EA2 + EAN1 Construction Traffic (2023) 100% HGV Origin from A12 north

#### AM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 282 | 140 | 422    |
| B       | 275 | 0   | 16  | 291    |
| C       | 125 | 32  | 0   | 157    |
| Totals  | 400 | 315 | 155 | 870    |

##### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 27 | 13 | 39     |
| B       | 24 | 0  | 0  | 25     |
| C       | 3  | 0  | 0  | 4      |
| Totals  | 28 | 27 | 13 | 68     |

##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 309 | 152 | 461    |
| B       | 299 | 0   | 16  | 316    |
| C       | 128 | 33  | 0   | 161    |
| Totals  | 427 | 342 | 169 | 938    |

##### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 8.6% | 8.3% | 6%      |
| B       | 8.2% | 0.0% | 2.7% | 4%      |
| C       | 2.5% | 1.3% | 0.0% | 1%      |
| Average | 4%   | 3%   | 4%   | 4%      |

#### PM Peak Traffic

##### Vehicles

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 266 | 205 | 471    |
| B       | 288 | 0   | 31  | 319    |
| C       | 241 | 1   | 0   | 242    |
| Totals  | 529 | 267 | 237 | 1033   |

##### HGVs

| From/To | A  | B  | C | Totals |
|---------|----|----|---|--------|
| A       | 0  | 15 | 2 | 17     |
| B       | 15 | 0  | 0 | 15     |
| C       | 0  | 0  | 0 | 0      |
| Totals  | 15 | 15 | 3 | 33     |

##### Total

| From/To | A   | B   | C   | Totals |
|---------|-----|-----|-----|--------|
| A       | 0   | 281 | 208 | 488    |
| B       | 303 | 0   | 32  | 334    |
| C       | 241 | 1   | 0   | 243    |
| Totals  | 544 | 282 | 239 | 1066   |

##### %HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 5.3%  | 1.0% | 2%      |
| B       | 4.9% | 0.0%  | 1.4% | 2%      |
| C       | 0.0% | 29.4% | 0.0% | 10%     |
| Average | 2%   | 12%   | 1%   | 5%      |

| Junctions 8                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |

**Filename:** Junction 2 - A12 and B1122.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 08/07/2019 14:14:44

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM



## Summary of junction performance

|                                                                                      | AM          |           |      |     | PM          |           |      |     |
|--------------------------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| <b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023</b> |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.77        | 16.96     | 0.44 | C   | 2.68        | 34.40     | 0.74 | D   |
| Stream C-AB                                                                          | 0.22        | 8.14      | 0.18 | A   | 0.10        | 6.71      | 0.09 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023</b> |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.74        | 16.01     | 0.43 | C   | 2.53        | 32.04     | 0.73 | D   |
| Stream C-AB                                                                          | 0.27        | 8.96      | 0.21 | A   | 0.13        | 7.74      | 0.12 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023</b>        |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.73        | 16.20     | 0.42 | C   | 1.98        | 27.09     | 0.67 | D   |
| Stream C-AB                                                                          | 0.21        | 7.98      | 0.18 | A   | 0.10        | 6.69      | 0.09 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023</b>        |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.71        | 15.49     | 0.42 | C   | 1.90        | 25.75     | 0.66 | D   |
| Stream C-AB                                                                          | 0.25        | 8.59      | 0.20 | A   | 0.12        | 7.48      | 0.11 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| <b>Existing Layout - Forecast Background 2023</b>                                    |             |           |      |     |             |           |      |     |
| Stream B-AC                                                                          | 0.61        | 13.83     | 0.38 | B   | 0.71        | 13.73     | 0.42 | B   |
| Stream C-AB                                                                          | 0.18        | 7.38      | 0.15 | A   | 0.10        | 6.62      | 0.09 | A   |
| Stream C-A                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                                           | -           | -         | -    | -   | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM " model duration: 07:15 - 08:45

"D2 - Forecast Background 2023, PM" model duration: 16:15 - 17:45

"D3 - Forecast Background + EA2 Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D4 - Forecast Background + EA2 Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D5 - Forecast Background + EA2 Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D6 - Forecast Background + EA2 Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

"D7 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM" model duration: 07:15 - 08:45

"D8 - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM" model duration: 16:15 - 17:45

"D9 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM" model duration: 07:15 - 08:45

"D10 - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM" model duration: 16:15 - 17:45

Run using Junctions 8.0.6.541 at 08/07/2019 14:14:34

## File summary

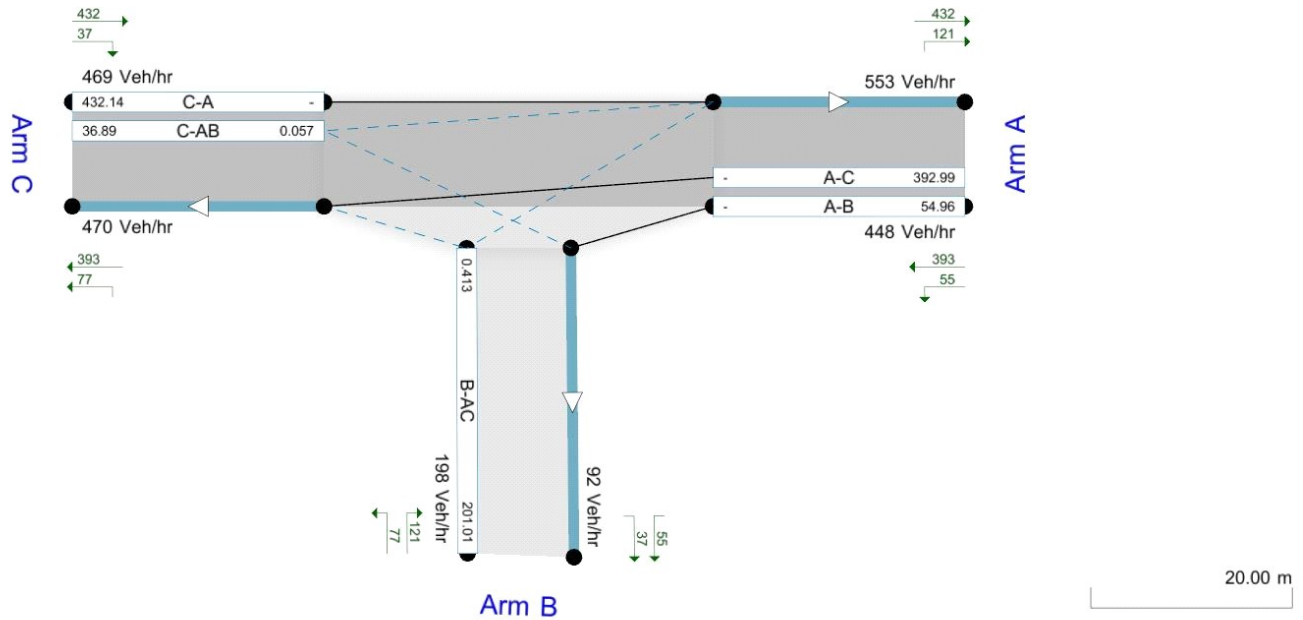
|                    |                                   |
|--------------------|-----------------------------------|
| <b>Title</b>       | East Anglia TWO Offshore Windfarm |
| <b>Location</b>    | Junction of the A12 and B1122     |
| <b>Site Number</b> | J2                                |
| <b>Date</b>        | 24/06/2019                        |
| <b>Version</b>     | D0.1                              |
| <b>Status</b>      | Existing Layout                   |
| <b>Identifier</b>  |                                   |
| <b>Client</b>      | Scottish Power                    |
| <b>Jobnumber</b>   | PB4842                            |
| <b>Enumerator</b>  | 304111                            |
| <b>Description</b> |                                   |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:15-07:30)  
Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 11.61              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

### Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 643.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 145.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 495.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 484.08                            | 512.14                              |                                  |                                        |
| 07:15-07:30  | B   | 109.16                            | 113.92                              |                                  |                                        |
| 07:15-07:30  | C   | 372.66                            | 389.26                              |                                  |                                        |
| 07:30-07:45  | A   | 578.04                            | 611.54                              |                                  |                                        |
| 07:30-07:45  | B   | 130.35                            | 136.04                              |                                  |                                        |
| 07:30-07:45  | C   | 444.99                            | 464.82                              |                                  |                                        |
| 07:45-08:00  | A   | 707.96                            | 748.99                              |                                  |                                        |
| 07:45-08:00  | B   | 159.65                            | 166.61                              |                                  |                                        |
| 07:45-08:00  | C   | 545.01                            | 569.28                              |                                  |                                        |
| 08:00-08:15  | A   | 707.96                            | 748.99                              |                                  |                                        |
| 08:00-08:15  | B   | 159.65                            | 166.61                              |                                  |                                        |
| 08:00-08:15  | C   | 545.01                            | 569.28                              |                                  |                                        |
| 08:15-08:30  | A   | 578.04                            | 611.54                              |                                  |                                        |
| 08:15-08:30  | B   | 130.35                            | 136.04                              |                                  |                                        |
| 08:15-08:30  | C   | 444.99                            | 464.82                              |                                  |                                        |
| 08:30-08:45  | A   | 484.08                            | 512.14                              |                                  |                                        |
| 08:30-08:45  | B   | 109.16                            | 113.92                              |                                  |                                        |
| 08:30-08:45  | C   | 372.66                            | 389.26                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 100.000 | 543.000 |
|      | B  | 73.000  | 0.000   | 72.000  |
|      | C  | 416.000 | 79.000  | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.16 | 0.84 |
|      | B  | 0.50 | 0.00 | 0.50 |
|      | C  | 0.84 | 0.16 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.074 | 1.055 |
|      | B  | 1.058 | 1.000 | 1.029 |
|      | C  | 1.053 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 7.4 | 5.5 |
|      | B  | 5.8 | 0.0 | 2.9 |
|      | C  | 5.3 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.38    | 13.83         | 0.61            | B       | 133.05                  | 199.58                        | 37.43                          | 11.25                      | 0.42                                 | 37.43                                    | 11.25                                |
| C-AB   | 0.15    | 7.38          | 0.18            | A       | 72.49                   | 108.74                        | 12.33                          | 6.80                       | 0.14                                 | 12.33                                    | 6.80                                 |
| C-A    | -       | -             | -               | -       | 381.73                  | 572.59                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 91.76                   | 137.64                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 498.27                  | 747.40                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 109.16                | 27.29                   | 108.07              | 0.00                       | 505.05            | 0.216 | 0.00              | 0.27            | 9.045     | A   |
| C-AB   | 59.48                 | 14.87                   | 59.07               | 0.00                       | 639.18            | 0.093 | 0.00              | 0.10            | 6.202     | A   |
| C-A    | 313.19                | 78.30                   | 313.19              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 75.29                 | 18.82                   | 75.29               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 408.80                | 102.20                  | 408.80              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 130.35                | 32.59                   | 129.93              | 0.00                       | 469.81            | 0.277 | 0.27              | 0.38            | 10.577    | B   |
| C-AB   | 71.02                 | 17.76                   | 70.91               | 0.00                       | 612.23            | 0.116 | 0.10              | 0.13            | 6.648     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 89.90                 | 22.47                   | 89.90               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 488.15                | 122.04                  | 488.15              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 159.65                | 39.91                   | 158.76              | 0.00                       | 419.94            | 0.380 | 0.38              | 0.60            | 13.735    | B   |
| C-AB   | 86.99                 | 21.75                   | 86.80               | 0.00                       | 574.98            | 0.151 | 0.13              | 0.18            | 7.374     | A   |
| C-A    | 458.02                | 114.50                  | 458.02              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 110.10                | 27.53                   | 110.10              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 597.85                | 149.46                  | 597.85              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 159.65                | 39.91                   | 159.62              | 0.00                       | 419.88            | 0.380 | 0.60              | 0.61            | 13.827    | B   |
| C-AB   | 86.99                 | 21.75                   | 86.98               | 0.00                       | 574.98            | 0.151 | 0.18              | 0.18            | 7.376     | A   |
| C-A    | 458.02                | 114.50                  | 458.02              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 110.10                | 27.53                   | 110.10              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 597.85                | 149.46                  | 597.85              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 130.35                | 32.59                   | 131.22              | 0.00                       | 469.72            | 0.278 | 0.61              | 0.39            | 10.661    | B   |
| C-AB   | 71.02                 | 17.76                   | 71.20               | 0.00                       | 612.23            | 0.116 | 0.18              | 0.13            | 6.655     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 89.90                 | 22.47                   | 89.90               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 488.15                | 122.04                  | 488.15              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 109.16                | 27.29                   | 109.61              | 0.00                       | 504.91            | 0.216 | 0.39              | 0.28            | 9.116     | A   |
| C-AB   | 59.48                 | 14.87                   | 59.59               | 0.00                       | 639.18            | 0.093 | 0.13              | 0.10            | 6.211     | A   |
| C-A    | 313.19                | 78.30                   | 313.19              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 75.29                 | 18.82                   | 75.29               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 408.80                | 102.20                  | 408.80              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Queueing Delay Results for each time segment

#### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 3.91                           | 0.26                                 | 9.045                                  | A                             | A                           |
| C-AB   | 1.52                           | 0.10                                 | 6.202                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 5.49                           | 0.37                                 | 10.577                                 | B                             | B                           |
| C-AB   | 1.96                           | 0.13                                 | 6.648                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 8.57                           | 0.57                                 | 13.735                                 | B                             | B                           |
| C-AB   | 2.65                           | 0.18                                 | 7.374                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.05                           | 0.60                                 | 13.827                                 | B                             | B                           |
| C-AB   | 2.67                           | 0.18                                 | 7.376                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.10                           | 0.41                                 | 10.661                                 | B                             | B                           |
| C-AB   | 1.99                           | 0.13                                 | 6.655                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.32                           | 0.29                                 | 9.116                                  | A                             | A                           |
| C-AB   | 1.55                           | 0.10                                 | 6.211                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 12.17              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 582.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 171.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 608.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 16:15-16:30  | B   | 128.74                            | 131.09                              |                                  |                                        |
| 16:15-16:30  | C   | 457.73                            | 468.26                              |                                  |                                        |
| 16:30-16:45  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 16:30-16:45  | B   | 153.73                            | 156.54                              |                                  |                                        |
| 16:30-16:45  | C   | 546.58                            | 559.14                              |                                  |                                        |
| 16:45-17:00  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 16:45-17:00  | B   | 188.27                            | 191.72                              |                                  |                                        |
| 16:45-17:00  | C   | 669.42                            | 684.81                              |                                  |                                        |
| 17:00-17:15  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 17:00-17:15  | B   | 188.27                            | 191.72                              |                                  |                                        |
| 17:00-17:15  | C   | 669.42                            | 684.81                              |                                  |                                        |
| 17:15-17:30  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 17:15-17:30  | B   | 153.73                            | 156.54                              |                                  |                                        |
| 17:15-17:30  | C   | 546.58                            | 559.14                              |                                  |                                        |
| 17:30-17:45  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 17:30-17:45  | B   | 128.74                            | 131.09                              |                                  |                                        |
| 17:30-17:45  | C   | 457.73                            | 468.26                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 68.000 | 514.000 |
|      | B  | 78.000  | 0.000  | 93.000  |
|      | C  | 559.000 | 49.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.46 | 0.00 | 0.54 |
|      | C  | 0.92 | 0.08 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.016 | 1.039 |
|      | B  | 1.027 | 1.000 | 1.011 |
|      | C  | 1.025 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 1.6 | 3.9 |
|      | B  | 2.7 | 0.0 | 1.1 |
|      | C  | 2.5 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.42    | 13.73         | 0.71            | B       | 156.91                  | 235.37                        | 43.45                          | 11.08                      | 0.48                                 | 43.46                                    | 11.08                                |
| C-AB   | 0.09    | 6.62          | 0.10            | A       | 44.96                   | 67.45                         | 7.00                           | 6.23                       | 0.08                                 | 7.00                                     | 6.23                                 |
| C-A    | -       | -             | -               | -       | 512.95                  | 769.42                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 62.40                   | 93.60                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 471.66                  | 707.48                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 128.74                | 32.18                   | 127.48              | 0.00                       | 534.54            | 0.241 | 0.00              | 0.31            | 8.817     | A   |
| C-AB   | 36.89                 | 9.22                    | 36.65               | 0.00                       | 654.92            | 0.056 | 0.00              | 0.06            | 5.823     | A   |
| C-A    | 420.84                | 105.21                  | 420.84              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 153.73                | 38.43                   | 153.23              | 0.00                       | 499.84            | 0.308 | 0.31              | 0.44            | 10.372    | B   |
| C-AB   | 44.05                 | 11.01                   | 43.99               | 0.00                       | 631.02            | 0.070 | 0.06              | 0.07            | 6.132     | A   |
| C-A    | 502.53                | 125.63                  | 502.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.27                | 47.07                   | 187.22              | 0.00                       | 450.43            | 0.418 | 0.44              | 0.70            | 13.621    | B   |
| C-AB   | 53.95                 | 13.49                   | 53.85               | 0.00                       | 597.98            | 0.090 | 0.07              | 0.10            | 6.616     | A   |
| C-A    | 615.47                | 153.87                  | 615.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.27                | 47.07                   | 188.24              | 0.00                       | 450.40            | 0.418 | 0.70              | 0.71            | 13.727    | B   |
| C-AB   | 53.95                 | 13.49                   | 53.95               | 0.00                       | 597.98            | 0.090 | 0.10              | 0.10            | 6.616     | A   |
| C-A    | 615.47                | 153.87                  | 615.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 153.73                | 38.43                   | 154.76              | 0.00                       | 499.79            | 0.308 | 0.71              | 0.45            | 10.464    | B   |
| C-AB   | 44.05                 | 11.01                   | 44.14               | 0.00                       | 631.02            | 0.070 | 0.10              | 0.08            | 6.134     | A   |
| C-A    | 502.53                | 125.63                  | 502.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 128.74                | 32.18                   | 129.26              | 0.00                       | 534.46            | 0.241 | 0.45              | 0.32            | 8.897     | A   |
| C-AB   | 36.89                 | 9.22                    | 36.95               | 0.00                       | 654.92            | 0.056 | 0.08              | 0.06            | 5.827     | A   |
| C-A    | 420.84                | 105.21                  | 420.84              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.50                           | 0.30                                 | 8.817                                  | A                             | A                           |
| C-AB   | 0.88                           | 0.06                                 | 5.823                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.34                           | 0.42                                 | 10.372                                 | B                             | B                           |
| C-AB   | 1.12                           | 0.07                                 | 6.132                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.00                          | 0.67                                 | 13.621                                 | B                             | B                           |
| C-AB   | 1.48                           | 0.10                                 | 6.616                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.59                          | 0.71                                 | 13.727                                 | B                             | B                           |
| C-AB   | 1.49                           | 0.10                                 | 6.616                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.06                           | 0.47                                 | 10.464                                 | B                             | B                           |
| C-AB   | 1.13                           | 0.08                                 | 6.134                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.98                           | 0.33                                 | 8.897                                  | A                             | A                           |
| C-AB   | 0.90                           | 0.06                                 | 5.827                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(S)) 2023, AM | Forecast Background + EA2 Construction (A12(S)) 2023 | AM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 12.87              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 713.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 151.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 510.00                       | 100.000                 |



## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 536.78                            | 564.66                              |                                  |                                        |
| 07:15-07:30  | B   | 113.68                            | 122.80                              |                                  |                                        |
| 07:15-07:30  | C   | 383.95                            | 404.87                              |                                  |                                        |
| 07:30-07:45  | A   | 640.97                            | 674.26                              |                                  |                                        |
| 07:30-07:45  | B   | 135.75                            | 146.63                              |                                  |                                        |
| 07:30-07:45  | C   | 458.48                            | 483.45                              |                                  |                                        |
| 07:45-08:00  | A   | 785.03                            | 825.79                              |                                  |                                        |
| 07:45-08:00  | B   | 166.25                            | 179.59                              |                                  |                                        |
| 07:45-08:00  | C   | 561.52                            | 592.11                              |                                  |                                        |
| 08:00-08:15  | A   | 785.03                            | 825.79                              |                                  |                                        |
| 08:00-08:15  | B   | 166.25                            | 179.59                              |                                  |                                        |
| 08:00-08:15  | C   | 561.52                            | 592.11                              |                                  |                                        |
| 08:15-08:30  | A   | 640.97                            | 674.26                              |                                  |                                        |
| 08:15-08:30  | B   | 135.75                            | 146.63                              |                                  |                                        |
| 08:15-08:30  | C   | 458.48                            | 483.45                              |                                  |                                        |
| 08:30-08:45  | A   | 536.78                            | 564.66                              |                                  |                                        |
| 08:30-08:45  | B   | 113.68                            | 122.80                              |                                  |                                        |
| 08:30-08:45  | C   | 383.95                            | 404.87                              |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|        | To      |         |         |
|--------|---------|---------|---------|
|        | A       | B       | C       |
| From A | 0.000   | 164.000 | 549.000 |
| From B | 73.000  | 0.000   | 78.000  |
| From C | 416.000 | 94.000  | 0.000   |

### Turning Proportions (Veh) - Junction 2 (for whole period)

|        | To   |      |      |
|--------|------|------|------|
|        | A    | B    | C    |
| From A | 0.00 | 0.23 | 0.77 |
| From B | 0.48 | 0.00 | 0.52 |
| From C | 0.82 | 0.18 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|  | To |       |       |       |
|--|----|-------|-------|-------|
|  |    | A     | B     | C     |
|  | A  | 1.000 | 1.045 | 1.054 |
|  | B  | 1.058 | 1.000 | 1.101 |
|  | C  | 1.053 | 1.061 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|  | To |     |     |      |
|--|----|-----|-----|------|
|  |    | A   | B   | C    |
|  | A  | 0.0 | 4.5 | 5.4  |
|  | B  | 5.8 | 0.0 | 10.1 |
|  | C  | 5.3 | 6.1 | 0.0  |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.42    | 15.49         | 0.71            | C       | 138.56                  | 207.84                        | 42.59                          | 12.29                      | 0.47                                 | 42.59                                    | 12.30                                |
| C-AB   | 0.20    | 8.59          | 0.25            | A       | 86.27                   | 129.41                        | 16.78                          | 7.78                       | 0.19                                 | 16.78                                    | 7.78                                 |
| C-A    | -       | -             | -               | -       | 381.71                  | 572.57                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 150.49                  | 225.73                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 503.77                  | 755.66                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 113.68                | 28.42                   | 112.48              | 0.00                       | 485.80            | 0.234 | 0.00              | 0.30            | 9.613     | A   |
| C-AB   | 70.77                 | 17.69                   | 70.23               | 0.00                       | 589.01            | 0.120 | 0.00              | 0.14            | 6.932     | A   |
| C-A    | 313.18                | 78.30                   | 313.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 123.47                | 30.87                   | 123.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 135.75                | 33.94                   | 135.25              | 0.00                       | 449.80            | 0.302 | 0.30              | 0.42            | 11.426    | B   |
| C-AB   | 84.51                 | 21.13                   | 84.35               | 0.00                       | 561.03            | 0.151 | 0.14              | 0.18            | 7.550     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 147.43                | 36.86                   | 147.43              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 166.25                | 41.56                   | 165.17              | 0.00                       | 398.60            | 0.417 | 0.42              | 0.70            | 15.373    | C   |
| C-AB   | 103.54                | 25.88                   | 103.26              | 0.00                       | 522.42            | 0.198 | 0.18              | 0.24            | 8.583     | A   |
| C-A    | 457.98                | 114.50                  | 457.98              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 180.57                | 45.14                   | 180.57              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 166.25                | 41.56                   | 166.22              | 0.00                       | 398.51            | 0.417 | 0.70              | 0.71            | 15.490    | C   |
| C-AB   | 103.54                | 25.88                   | 103.53              | 0.00                       | 522.42            | 0.198 | 0.24              | 0.25            | 8.593     | A   |
| C-A    | 457.98                | 114.50                  | 457.98              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 180.57                | 45.14                   | 180.57              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 135.75                | 33.94                   | 136.81              | 0.00                       | 449.67            | 0.302 | 0.71              | 0.44            | 11.544    | B   |
| C-AB   | 84.51                 | 21.13                   | 84.78               | 0.00                       | 561.03            | 0.151 | 0.25              | 0.18            | 7.562     | A   |
| C-A    | 373.97                | 93.49                   | 373.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 147.43                | 36.86                   | 147.43              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 113.68                | 28.42                   | 114.20              | 0.00                       | 485.61            | 0.234 | 0.44              | 0.31            | 9.706     | A   |
| C-AB   | 70.77                 | 17.69                   | 70.94               | 0.00                       | 589.01            | 0.120 | 0.18              | 0.14            | 6.950     | A   |
| C-A    | 313.18                | 78.30                   | 313.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 123.47                | 30.87                   | 123.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.31                           | 0.29                                 | 9.613                                  | A                             | A                           |
| C-AB   | 2.01                           | 0.13                                 | 6.932                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.15                           | 0.41                                 | 11.426                                 | B                             | B                           |
| C-AB   | 2.64                           | 0.18                                 | 7.550                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.89                           | 0.66                                 | 15.373                                 | C                             | B                           |
| C-AB   | 3.67                           | 0.24                                 | 8.583                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.53                          | 0.70                                 | 15.490                                 | C                             | B                           |
| C-AB   | 3.71                           | 0.25                                 | 8.593                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.90                           | 0.46                                 | 11.544                                 | B                             | B                           |
| C-AB   | 2.69                           | 0.18                                 | 7.562                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.81                           | 0.32                                 | 9.706                                  | A                             | A                           |
| C-AB   | 2.07                           | 0.14                                 | 6.950                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(S)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(S)) 2023, PM | Forecast Background + EA2 Construction (A12(S)) 2023 | PM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 22.33              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 582.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 250.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 619.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 16:15-16:30  | B   | 188.21                            | 194.94                              |                                  |                                        |
| 16:15-16:30  | C   | 466.02                            | 480.53                              |                                  |                                        |
| 16:30-16:45  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 16:30-16:45  | B   | 224.74                            | 232.78                              |                                  |                                        |
| 16:30-16:45  | C   | 556.47                            | 573.80                              |                                  |                                        |
| 16:45-17:00  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 16:45-17:00  | B   | 275.26                            | 285.09                              |                                  |                                        |
| 16:45-17:00  | C   | 681.53                            | 702.76                              |                                  |                                        |
| 17:00-17:15  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 17:00-17:15  | B   | 275.26                            | 285.09                              |                                  |                                        |
| 17:00-17:15  | C   | 681.53                            | 702.76                              |                                  |                                        |
| 17:15-17:30  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 17:15-17:30  | B   | 224.74                            | 232.78                              |                                  |                                        |
| 17:15-17:30  | C   | 556.47                            | 573.80                              |                                  |                                        |
| 17:30-17:45  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 17:30-17:45  | B   | 188.21                            | 194.94                              |                                  |                                        |
| 17:30-17:45  | C   | 466.02                            | 480.53                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 68.000 | 514.000 |
|      | B  | 142.000 | 0.000  | 108.000 |
|      | C  | 565.000 | 54.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.57 | 0.00 | 0.43 |
|      | C  | 0.91 | 0.09 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.016 | 1.039 |
|      | B  | 1.015 | 1.000 | 1.063 |
|      | C  | 1.024 | 1.106 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 1.6  | 3.9 |
|      | B  | 1.5 | 0.0  | 6.3 |
|      | C  | 2.4 | 10.6 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.66    | 25.75         | 1.90            | D       | 229.40                  | 344.11                        | 99.46                          | 17.34                      | 1.11                                 | 99.48                                    | 17.35                                |
| C-AB   | 0.11    | 7.48          | 0.12            | A       | 49.55                   | 74.33                         | 8.69                           | 7.01                       | 0.10                                 | 8.69                                     | 7.01                                 |
| C-A    | -       | -             | -               | -       | 518.45                  | 777.68                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 62.40                   | 93.60                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 471.66                  | 707.48                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.21                | 47.05                   | 185.85              | 0.00                       | 500.74            | 0.376 | 0.00              | 0.59            | 11.351    | B   |
| C-AB   | 40.65                 | 10.16                   | 40.36               | 0.00                       | 592.16            | 0.069 | 0.00              | 0.07            | 6.521     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 224.74                | 56.19                   | 223.47              | 0.00                       | 464.91            | 0.483 | 0.59              | 0.91            | 14.830    | B   |
| C-AB   | 48.55                 | 12.14                   | 48.47               | 0.00                       | 570.55            | 0.085 | 0.07              | 0.09            | 6.895     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 275.25                | 68.81                   | 271.53              | 0.00                       | 414.10            | 0.665 | 0.91              | 1.84            | 24.617    | C   |
| C-AB   | 59.46                 | 14.86                   | 59.34               | 0.00                       | 540.69            | 0.110 | 0.09              | 0.12            | 7.476     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 275.25                | 68.81                   | 274.99              | 0.00                       | 414.06            | 0.665 | 1.84              | 1.90            | 25.752    | D   |
| C-AB   | 59.46                 | 14.86                   | 59.46               | 0.00                       | 540.69            | 0.110 | 0.12              | 0.12            | 7.479     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 224.74                | 56.19                   | 228.50              | 0.00                       | 464.85            | 0.483 | 1.90              | 0.96            | 15.462    | C   |
| C-AB   | 48.55                 | 12.14                   | 48.66               | 0.00                       | 570.55            | 0.085 | 0.12              | 0.09            | 6.898     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 188.21                | 47.05                   | 189.61              | 0.00                       | 500.62            | 0.376 | 0.96              | 0.61            | 11.628    | B   |
| C-AB   | 40.65                 | 10.16                   | 40.73               | 0.00                       | 592.15            | 0.069 | 0.09              | 0.07            | 6.528     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 8.34                           | 0.56                                 | 11.351                                 | B                             | B                           |
| C-AB   | 1.09                           | 0.07                                 | 6.521                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 12.91                          | 0.86                                 | 14.830                                 | B                             | B                           |
| C-AB   | 1.39                           | 0.09                                 | 6.895                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 24.84                          | 1.66                                 | 24.617                                 | C                             | C                           |
| C-AB   | 1.84                           | 0.12                                 | 7.476                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 28.18                          | 1.88                                 | 25.752                                 | D                             | C                           |
| C-AB   | 1.85                           | 0.12                                 | 7.479                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 15.53                          | 1.04                                 | 15.462                                 | C                             | B                           |
| C-AB   | 1.41                           | 0.09                                 | 6.898                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.66                           | 0.64                                 | 11.628                                 | B                             | B                           |
| C-AB   | 1.11                           | 0.07                                 | 6.528                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(N)) 2023, AM | Forecast Background + EA2 Construction (A12(N)) 2023 | AM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 13.27              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 723.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 149.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 510.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 544.31                            | 579.95                              |                                  |                                        |
| 07:15-07:30  | B   | 112.18                            | 119.78                              |                                  |                                        |
| 07:15-07:30  | C   | 383.95                            | 405.88                              |                                  |                                        |
| 07:30-07:45  | A   | 649.96                            | 692.51                              |                                  |                                        |
| 07:30-07:45  | B   | 133.95                            | 143.02                              |                                  |                                        |
| 07:30-07:45  | C   | 458.48                            | 484.66                              |                                  |                                        |
| 07:45-08:00  | A   | 796.04                            | 848.15                              |                                  |                                        |
| 07:45-08:00  | B   | 164.05                            | 175.17                              |                                  |                                        |
| 07:45-08:00  | C   | 561.52                            | 593.58                              |                                  |                                        |
| 08:00-08:15  | A   | 796.04                            | 848.15                              |                                  |                                        |
| 08:00-08:15  | B   | 164.05                            | 175.17                              |                                  |                                        |
| 08:00-08:15  | C   | 561.52                            | 593.58                              |                                  |                                        |
| 08:15-08:30  | A   | 649.96                            | 692.51                              |                                  |                                        |
| 08:15-08:30  | B   | 133.95                            | 143.02                              |                                  |                                        |
| 08:15-08:30  | C   | 458.48                            | 484.66                              |                                  |                                        |
| 08:30-08:45  | A   | 544.31                            | 579.95                              |                                  |                                        |
| 08:30-08:45  | B   | 112.18                            | 119.78                              |                                  |                                        |
| 08:30-08:45  | C   | 383.95                            | 405.88                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|        | To      |         |         |
|--------|---------|---------|---------|
|        | A       | B       | C       |
| From A | 0.000   | 168.000 | 555.000 |
| From B | 77.000  | 0.000   | 72.000  |
| From C | 422.000 | 88.000  | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|        | To   |      |      |
|--------|------|------|------|
|        | A    | B    | C    |
| From A | 0.00 | 0.23 | 0.77 |
| From B | 0.52 | 0.00 | 0.48 |
| From C | 0.83 | 0.17 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.067 | 1.065 |
|      | B  | 1.104 | 1.000 | 1.029 |
|      | C  | 1.069 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |      |     |     |
|------|----|------|-----|-----|
|      |    | A    | B   | C   |
| From | A  | 0.0  | 6.7 | 6.5 |
|      | B  | 10.4 | 0.0 | 2.9 |
|      | C  | 6.9  | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.42    | 16.20         | 0.73            | C       | 136.72                  | 205.09                        | 43.47                          | 12.72                      | 0.48                                 | 43.47                                    | 12.72                                |
| C-AB   | 0.18    | 7.98          | 0.21            | A       | 80.76                   | 121.13                        | 14.63                          | 7.25                       | 0.16                                 | 14.63                                    | 7.25                                 |
| C-A    | -       | -             | -               | -       | 387.23                  | 580.84                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 154.16                  | 231.24                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 509.28                  | 763.92                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 112.17                | 28.04                   | 110.96              | 0.00                       | 476.39            | 0.235 | 0.00              | 0.30            | 9.820     | A   |
| C-AB   | 66.25                 | 16.56                   | 65.78               | 0.00                       | 620.79            | 0.107 | 0.00              | 0.12            | 6.480     | A   |
| C-A    | 317.70                | 79.43                   | 317.70              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 126.48                | 31.62                   | 126.48              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 417.83                | 104.46                  | 417.83              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 133.95                | 33.49                   | 133.44              | 0.00                       | 439.09            | 0.305 | 0.30              | 0.43            | 11.758    | B   |
| C-AB   | 79.11                 | 19.78                   | 78.97               | 0.00                       | 590.28            | 0.134 | 0.12              | 0.15            | 7.039     | A   |
| C-A    | 379.37                | 94.84                   | 379.37              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 151.03                | 37.76                   | 151.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 498.93                | 124.73                  | 498.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 164.05                | 41.01                   | 162.91              | 0.00                       | 386.22            | 0.425 | 0.43              | 0.72            | 16.037    | C   |
| C-AB   | 96.90                 | 24.23                   | 96.67               | 0.00                       | 548.12            | 0.177 | 0.15              | 0.21            | 7.970     | A   |
| C-A    | 464.62                | 116.15                  | 464.62              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 184.97                | 46.24                   | 184.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 611.07                | 152.77                  | 611.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 164.05                | 41.01                   | 164.01              | 0.00                       | 386.14            | 0.425 | 0.72              | 0.73            | 16.198    | C   |
| C-AB   | 96.90                 | 24.23                   | 96.90               | 0.00                       | 548.12            | 0.177 | 0.21              | 0.21            | 7.978     | A   |
| C-A    | 464.62                | 116.15                  | 464.62              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 184.97                | 46.24                   | 184.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 611.07                | 152.77                  | 611.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 133.95                | 33.49                   | 135.07              | 0.00                       | 438.98            | 0.305 | 0.73              | 0.45            | 11.890    | B   |
| C-AB   | 79.11                 | 19.78                   | 79.34               | 0.00                       | 590.28            | 0.134 | 0.21              | 0.16            | 7.051     | A   |
| C-A    | 379.37                | 94.84                   | 379.37              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 151.03                | 37.76                   | 151.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 498.93                | 124.73                  | 498.93              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 112.17                | 28.04                   | 112.71              | 0.00                       | 476.22            | 0.236 | 0.45              | 0.31            | 9.917     | A   |
| C-AB   | 66.25                 | 16.56                   | 66.39               | 0.00                       | 620.79            | 0.107 | 0.16              | 0.12            | 6.497     | A   |
| C-A    | 317.70                | 79.43                   | 317.70              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 126.48                | 31.62                   | 126.48              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 417.83                | 104.46                  | 417.83              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.34                           | 0.29                                 | 9.820                                  | A                             | A                           |
| C-AB   | 1.76                           | 0.12                                 | 6.480                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.23                           | 0.42                                 | 11.758                                 | B                             | B                           |
| C-AB   | 2.31                           | 0.15                                 | 7.039                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.17                          | 0.68                                 | 16.037                                 | C                             | B                           |
| C-AB   | 3.19                           | 0.21                                 | 7.970                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.85                          | 0.72                                 | 16.198                                 | C                             | B                           |
| C-AB   | 3.22                           | 0.21                                 | 7.978                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.02                           | 0.47                                 | 11.890                                 | B                             | B                           |
| C-AB   | 2.35                           | 0.16                                 | 7.051                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.85                           | 0.32                                 | 9.917                                  | A                             | A                           |
| C-AB   | 1.81                           | 0.12                                 | 6.497                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction (A12(N)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                     | Scenario Name                                        | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|----------------------------------------------------------|------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction (A12(N)) 2023, PM | Forecast Background + EA2 Construction (A12(N)) 2023 | PM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 23.80              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 592.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 248.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 621.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 445.69                            | 469.68                              |                                  |                                        |
| 16:15-16:30  | B   | 186.71                            | 191.87                              |                                  |                                        |
| 16:15-16:30  | C   | 467.52                            | 483.02                              |                                  |                                        |
| 16:30-16:45  | A   | 532.20                            | 560.84                              |                                  |                                        |
| 16:30-16:45  | B   | 222.95                            | 229.11                              |                                  |                                        |
| 16:30-16:45  | C   | 558.27                            | 576.78                              |                                  |                                        |
| 16:45-17:00  | A   | 651.80                            | 686.89                              |                                  |                                        |
| 16:45-17:00  | B   | 273.05                            | 280.61                              |                                  |                                        |
| 16:45-17:00  | C   | 683.73                            | 706.41                              |                                  |                                        |
| 17:00-17:15  | A   | 651.80                            | 686.89                              |                                  |                                        |
| 17:00-17:15  | B   | 273.05                            | 280.61                              |                                  |                                        |
| 17:00-17:15  | C   | 683.73                            | 706.41                              |                                  |                                        |
| 17:15-17:30  | A   | 532.20                            | 560.84                              |                                  |                                        |
| 17:15-17:30  | B   | 222.95                            | 229.11                              |                                  |                                        |
| 17:15-17:30  | C   | 558.27                            | 576.78                              |                                  |                                        |
| 17:30-17:45  | A   | 445.69                            | 469.68                              |                                  |                                        |
| 17:30-17:45  | B   | 186.71                            | 191.87                              |                                  |                                        |
| 17:30-17:45  | C   | 467.52                            | 483.02                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 72.000 | 520.000 |
|      | B  | 146.000 | 0.000  | 102.000 |
|      | C  | 572.000 | 49.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.59 | 0.00 | 0.41 |
|      | C  | 0.92 | 0.08 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.067 | 1.052 |
|      | B  | 1.040 | 1.000 | 1.010 |
|      | C  | 1.036 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 6.7 | 5.2 |
|      | B  | 4.0 | 0.0 | 1.0 |
|      | C  | 3.6 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.67    | 27.09         | 1.98            | D       | 227.57                  | 341.35                        | 102.14                         | 17.95                      | 1.13                                 | 102.16                                   | 17.96                                |
| C-AB   | 0.09    | 6.69          | 0.10            | A       | 44.96                   | 67.45                         | 7.07                           | 6.29                       | 0.08                                 | 7.07                                     | 6.29                                 |
| C-A    | -       | -             | -               | -       | 524.88                  | 787.32                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 66.07                   | 99.10                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 477.16                  | 715.74                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 186.71                | 46.68                   | 184.33              | 0.00                       | 493.88            | 0.378 | 0.00              | 0.60            | 11.545    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.65               | 0.00                       | 650.69            | 0.057 | 0.00              | 0.06            | 5.863     | A   |
| C-A    | 430.63                | 107.66                  | 430.63              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 54.21                 | 13.55                   | 54.21               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 391.48                | 97.87                   | 391.48              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 222.95                | 55.74                   | 221.64              | 0.00                       | 457.04            | 0.488 | 0.60              | 0.92            | 15.205    | C   |
| C-AB   | 44.05                 | 11.01                   | 43.99               | 0.00                       | 625.97            | 0.070 | 0.06              | 0.08            | 6.185     | A   |
| C-A    | 514.22                | 128.55                  | 514.22              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 64.73                 | 16.18                   | 64.73               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 467.47                | 116.87                  | 467.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 273.05                | 68.26                   | 269.11              | 0.00                       | 404.89            | 0.674 | 0.92              | 1.91            | 25.779    | D   |
| C-AB   | 53.95                 | 13.49                   | 53.85               | 0.00                       | 591.79            | 0.091 | 0.08              | 0.10            | 6.692     | A   |
| C-A    | 629.78                | 157.45                  | 629.78              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 79.27                 | 19.82                   | 79.27               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 572.53                | 143.13                  | 572.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 273.05                | 68.26                   | 272.76              | 0.00                       | 404.86            | 0.674 | 1.91              | 1.98            | 27.087    | D   |
| C-AB   | 53.95                 | 13.49                   | 53.95               | 0.00                       | 591.79            | 0.091 | 0.10              | 0.10            | 6.692     | A   |
| C-A    | 629.78                | 157.45                  | 629.78              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 79.27                 | 19.82                   | 79.27               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 572.53                | 143.13                  | 572.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 222.95                | 55.74                   | 226.95              | 0.00                       | 456.99            | 0.488 | 1.98              | 0.98            | 15.907    | C   |
| C-AB   | 44.05                 | 11.01                   | 44.14               | 0.00                       | 625.97            | 0.070 | 0.10              | 0.08            | 6.190     | A   |
| C-A    | 514.22                | 128.55                  | 514.22              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 64.73                 | 16.18                   | 64.73               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 467.47                | 116.87                  | 467.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 186.71                | 46.68                   | 188.16              | 0.00                       | 493.79            | 0.378 | 0.98              | 0.62            | 11.835    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.95               | 0.00                       | 650.69            | 0.057 | 0.08              | 0.06            | 5.865     | A   |
| C-A    | 430.63                | 107.66                  | 430.63              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 54.21                 | 13.55                   | 54.21               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 391.48                | 97.87                   | 391.48              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 8.41                           | 0.56                                 | 11.545                                 | B                             | B                           |
| C-AB   | 0.89                           | 0.06                                 | 5.863                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 13.11                          | 0.87                                 | 15.205                                 | C                             | B                           |
| C-AB   | 1.13                           | 0.08                                 | 6.185                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 25.68                          | 1.71                                 | 25.779                                 | D                             | C                           |
| C-AB   | 1.49                           | 0.10                                 | 6.692                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 29.31                          | 1.95                                 | 27.087                                 | D                             | C                           |
| C-AB   | 1.50                           | 0.10                                 | 6.692                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 15.87                          | 1.06                                 | 15.907                                 | C                             | B                           |
| C-AB   | 1.14                           | 0.08                                 | 6.190                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.76                           | 0.65                                 | 11.835                                 | B                             | B                           |
| C-AB   | 0.91                           | 0.06                                 | 5.865                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, AM | Forecast Background + EA2 + EA1N Construction (A12(S)) 2023 | AM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 13.28              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 730.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 153.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 514.00                       | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 549.58                            | 577.49                              |                                  |                                        |
| 07:15-07:30  | B   | 115.19                            | 125.78                              |                                  |                                        |
| 07:15-07:30  | C   | 386.97                            | 409.32                              |                                  |                                        |
| 07:30-07:45  | A   | 656.26                            | 689.58                              |                                  |                                        |
| 07:30-07:45  | B   | 137.54                            | 150.20                              |                                  |                                        |
| 07:30-07:45  | C   | 462.08                            | 488.77                              |                                  |                                        |
| 07:45-08:00  | A   | 803.74                            | 844.56                              |                                  |                                        |
| 07:45-08:00  | B   | 168.46                            | 183.95                              |                                  |                                        |
| 07:45-08:00  | C   | 565.92                            | 598.62                              |                                  |                                        |
| 08:00-08:15  | A   | 803.74                            | 844.56                              |                                  |                                        |
| 08:00-08:15  | B   | 168.46                            | 183.95                              |                                  |                                        |
| 08:00-08:15  | C   | 565.92                            | 598.62                              |                                  |                                        |
| 08:15-08:30  | A   | 656.26                            | 689.58                              |                                  |                                        |
| 08:15-08:30  | B   | 137.54                            | 150.20                              |                                  |                                        |
| 08:15-08:30  | C   | 462.08                            | 488.77                              |                                  |                                        |
| 08:30-08:45  | A   | 549.58                            | 577.49                              |                                  |                                        |
| 08:30-08:45  | B   | 115.19                            | 125.78                              |                                  |                                        |
| 08:30-08:45  | C   | 386.97                            | 409.32                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 181.000 | 549.000 |
|      | B  | 73.000  | 0.000   | 80.000  |
|      | C  | 416.000 | 98.000  | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.25 | 0.75 |
|      | B  | 0.48 | 0.00 | 0.52 |
|      | C  | 0.81 | 0.19 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.041 | 1.054 |
|      | B  | 1.058 | 1.000 | 1.123 |
|      | C  | 1.053 | 1.078 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |      |
|------|----|-----|-----|------|
|      |    | A   | B   | C    |
| From | A  | 0.0 | 4.1 | 5.4  |
|      | B  | 5.8 | 0.0 | 12.3 |
|      | C  | 5.3 | 7.8 | 0.0  |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.43    | 16.01         | 0.74            | C       | 140.40                  | 210.59                        | 44.28                          | 12.62                      | 0.49                                 | 44.29                                    | 12.62                                |
| C-AB   | 0.21    | 8.96          | 0.27            | A       | 89.96                   | 134.93                        | 18.16                          | 8.07                       | 0.20                                 | 18.16                                    | 8.07                                 |
| C-A    | -       | -             | -               | -       | 381.70                  | 572.55                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 166.09                  | 249.13                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 503.77                  | 755.66                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 115.19                | 28.80                   | 113.94              | 0.00                       | 480.62            | 0.240 | 0.00              | 0.31            | 9.785     | A   |
| C-AB   | 73.78                 | 18.45                   | 73.20               | 0.00                       | 576.50            | 0.128 | 0.00              | 0.15            | 7.146     | A   |
| C-A    | 313.18                | 78.30                   | 313.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 136.27                | 34.07                   | 136.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 137.54                | 34.39                   | 137.03              | 0.00                       | 444.55            | 0.309 | 0.31              | 0.44            | 11.686    | B   |
| C-AB   | 88.11                 | 22.03                   | 87.94               | 0.00                       | 548.35            | 0.161 | 0.15              | 0.19            | 7.813     | A   |
| C-A    | 373.96                | 93.49                   | 373.96              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 162.72                | 40.68                   | 162.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 168.46                | 42.11                   | 167.30              | 0.00                       | 393.18            | 0.428 | 0.44              | 0.73            | 15.855    | C   |
| C-AB   | 107.97                | 26.99                   | 107.67              | 0.00                       | 509.56            | 0.212 | 0.19              | 0.27            | 8.951     | A   |
| C-A    | 457.95                | 114.49                  | 457.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 199.28                | 49.82                   | 199.28              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 168.46                | 42.11                   | 168.41              | 0.00                       | 393.08            | 0.429 | 0.73              | 0.74            | 16.015    | C   |
| C-AB   | 107.97                | 26.99                   | 107.97              | 0.00                       | 509.55            | 0.212 | 0.27              | 0.27            | 8.964     | A   |
| C-A    | 457.95                | 114.49                  | 457.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 199.28                | 49.82                   | 199.28              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 604.46                | 151.12                  | 604.46              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 137.54                | 34.39                   | 138.67              | 0.00                       | 444.41            | 0.309 | 0.74              | 0.46            | 11.816    | B   |
| C-AB   | 88.11                 | 22.03                   | 88.41               | 0.00                       | 548.34            | 0.161 | 0.27              | 0.19            | 7.831     | A   |
| C-A    | 373.96                | 93.49                   | 373.96              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 162.72                | 40.68                   | 162.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 493.54                | 123.38                  | 493.54              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 115.19                | 28.80                   | 115.73              | 0.00                       | 480.41            | 0.240 | 0.46              | 0.32            | 9.887     | A   |
| C-AB   | 73.78                 | 18.45                   | 73.96               | 0.00                       | 576.50            | 0.128 | 0.19              | 0.15            | 7.168     | A   |
| C-A    | 313.18                | 78.30                   | 313.18              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 136.27                | 34.07                   | 136.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 413.32                | 103.33                  | 413.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.45                           | 0.30                                 | 9.785                                  | A                             | A                           |
| C-AB   | 2.16                           | 0.14                                 | 7.146                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.36                           | 0.42                                 | 11.686                                 | B                             | B                           |
| C-AB   | 2.85                           | 0.19                                 | 7.813                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.32                          | 0.69                                 | 15.855                                 | C                             | B                           |
| C-AB   | 3.99                           | 0.27                                 | 8.951                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.02                          | 0.73                                 | 16.015                                 | C                             | B                           |
| C-AB   | 4.03                           | 0.27                                 | 8.964                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.17                           | 0.48                                 | 11.816                                 | B                             | B                           |
| C-AB   | 2.91                           | 0.19                                 | 7.831                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.97                           | 0.33                                 | 9.887                                  | A                             | A                           |
| C-AB   | 2.22                           | 0.15                                 | 7.168                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(S)) 2023, PM | Forecast Background + EA2 + EA1N Construction (A12(S)) 2023 | PM               | 100% of HGVs distributed from the A12 South | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 27.55              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 582.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 270.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 621.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 16:15-16:30  | B   | 203.27                            | 211.39                              |                                  |                                        |
| 16:15-16:30  | C   | 467.52                            | 483.42                              |                                  |                                        |
| 16:30-16:45  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 16:30-16:45  | B   | 242.72                            | 252.42                              |                                  |                                        |
| 16:30-16:45  | C   | 558.27                            | 577.25                              |                                  |                                        |
| 16:45-17:00  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 16:45-17:00  | B   | 297.28                            | 309.16                              |                                  |                                        |
| 16:45-17:00  | C   | 683.73                            | 706.99                              |                                  |                                        |
| 17:00-17:15  | A   | 640.79                            | 664.06                              |                                  |                                        |
| 17:00-17:15  | B   | 297.28                            | 309.16                              |                                  |                                        |
| 17:00-17:15  | C   | 683.73                            | 706.99                              |                                  |                                        |
| 17:15-17:30  | A   | 523.21                            | 542.21                              |                                  |                                        |
| 17:15-17:30  | B   | 242.72                            | 252.42                              |                                  |                                        |
| 17:15-17:30  | C   | 558.27                            | 577.25                              |                                  |                                        |
| 17:30-17:45  | A   | 438.16                            | 454.07                              |                                  |                                        |
| 17:30-17:45  | B   | 203.27                            | 211.39                              |                                  |                                        |
| 17:30-17:45  | C   | 467.52                            | 483.42                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 68.000 | 514.000 |
|      | B  | 158.000 | 0.000  | 112.000 |
|      | C  | 565.000 | 56.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.59 | 0.00 | 0.41 |
|      | C  | 0.91 | 0.09 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.016 | 1.039 |
|      | B  | 1.013 | 1.000 | 1.078 |
|      | C  | 1.024 | 1.135 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 1.6  | 3.9 |
|      | B  | 1.3 | 0.0  | 7.8 |
|      | C  | 2.4 | 13.5 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.73    | 32.04         | 2.53            | D       | 247.76                  | 371.64                        | 124.05                         | 20.03                      | 1.38                                 | 124.08                                   | 20.03                                |
| C-AB   | 0.12    | 7.74          | 0.13            | A       | 51.39                   | 77.08                         | 9.31                           | 7.24                       | 0.10                                 | 9.31                                     | 7.24                                 |
| C-A    | -       | -             | -               | -       | 518.45                  | 777.68                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 62.40                   | 93.60                         | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 471.66                  | 707.48                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 203.27                | 50.82                   | 200.55              | 0.00                       | 494.95            | 0.411 | 0.00              | 0.68            | 12.122    | B   |
| C-AB   | 42.16                 | 10.54                   | 41.85               | 0.00                       | 577.03            | 0.073 | 0.00              | 0.08            | 6.724     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 242.73                | 60.68                   | 241.12              | 0.00                       | 458.94            | 0.529 | 0.68              | 1.08            | 16.402    | C   |
| C-AB   | 50.34                 | 12.59                   | 50.26               | 0.00                       | 555.98            | 0.091 | 0.08              | 0.10            | 7.118     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 297.28                | 74.32                   | 291.99              | 0.00                       | 407.90            | 0.729 | 1.08              | 2.41            | 29.767    | D   |
| C-AB   | 61.66                 | 15.42                   | 61.53               | 0.00                       | 526.89            | 0.117 | 0.10              | 0.13            | 7.734     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 297.28                | 74.32                   | 296.78              | 0.00                       | 407.85            | 0.729 | 2.41              | 2.53            | 32.039    | D   |
| C-AB   | 61.66                 | 15.42                   | 61.66               | 0.00                       | 526.89            | 0.117 | 0.13              | 0.13            | 7.737     | A   |
| C-A    | 622.07                | 155.52                  | 622.07              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 74.87                 | 18.72                   | 74.87               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 565.92                | 141.48                  | 565.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 242.73                | 60.68                   | 248.19              | 0.00                       | 458.87            | 0.529 | 2.53              | 1.17            | 17.497    | C   |
| C-AB   | 50.34                 | 12.59                   | 50.47               | 0.00                       | 555.97            | 0.091 | 0.13              | 0.10            | 7.125     | A   |
| C-A    | 507.92                | 126.98                  | 507.92              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 61.13                 | 15.28                   | 61.13               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 462.08                | 115.52                  | 462.08              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 203.27                | 50.82                   | 205.08              | 0.00                       | 494.82            | 0.411 | 1.17              | 0.71            | 12.502    | B   |
| C-AB   | 42.16                 | 10.54                   | 42.24               | 0.00                       | 577.03            | 0.073 | 0.10              | 0.08            | 6.731     | A   |
| C-A    | 425.36                | 106.34                  | 425.36              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 51.19                 | 12.80                   | 51.19               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 386.97                | 96.74                   | 386.97              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.58                           | 0.64                                 | 12.122                                 | B                             | B                           |
| C-AB   | 1.16                           | 0.08                                 | 6.724                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 15.28                          | 1.02                                 | 16.402                                 | C                             | B                           |
| C-AB   | 1.48                           | 0.10                                 | 7.118                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 31.64                          | 2.11                                 | 29.767                                 | D                             | C                           |
| C-AB   | 1.97                           | 0.13                                 | 7.734                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 37.20                          | 2.48                                 | 32.039                                 | D                             | C                           |
| C-AB   | 1.99                           | 0.13                                 | 7.737                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 19.09                          | 1.27                                 | 17.497                                 | C                             | B                           |
| C-AB   | 1.51                           | 0.10                                 | 7.125                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.26                          | 0.75                                 | 12.502                                 | B                             | B                           |
| C-AB   | 1.19                           | 0.08                                 | 6.731                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, AM | Forecast Background + EA2 + EA1N Construction (A12(N)) 2023 | AM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 07:15                    | 08:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 13.80              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 743.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 150.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 514.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:15-07:30  | A   | 559.37                            | 597.27                              |                                  |                                        |
| 07:15-07:30  | B   | 112.93                            | 121.49                              |                                  |                                        |
| 07:15-07:30  | C   | 386.97                            | 409.95                              |                                  |                                        |
| 07:30-07:45  | A   | 667.94                            | 713.19                              |                                  |                                        |
| 07:30-07:45  | B   | 134.85                            | 145.07                              |                                  |                                        |
| 07:30-07:45  | C   | 462.08                            | 489.52                              |                                  |                                        |
| 07:45-08:00  | A   | 818.06                            | 873.48                              |                                  |                                        |
| 07:45-08:00  | B   | 165.15                            | 177.67                              |                                  |                                        |
| 07:45-08:00  | C   | 565.92                            | 599.54                              |                                  |                                        |
| 08:00-08:15  | A   | 818.06                            | 873.48                              |                                  |                                        |
| 08:00-08:15  | B   | 165.15                            | 177.67                              |                                  |                                        |
| 08:00-08:15  | C   | 565.92                            | 599.54                              |                                  |                                        |
| 08:15-08:30  | A   | 667.94                            | 713.19                              |                                  |                                        |
| 08:15-08:30  | B   | 134.85                            | 145.07                              |                                  |                                        |
| 08:15-08:30  | C   | 462.08                            | 489.52                              |                                  |                                        |
| 08:30-08:45  | A   | 559.37                            | 597.27                              |                                  |                                        |
| 08:30-08:45  | B   | 112.93                            | 121.49                              |                                  |                                        |
| 08:30-08:45  | C   | 386.97                            | 409.95                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |         |         |
|------|----|---------|---------|---------|
|      |    | A       | B       | C       |
| From | A  | 0.000   | 186.000 | 557.000 |
|      | B  | 78.000  | 0.000   | 72.000  |
|      | C  | 424.000 | 90.000  | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.25 | 0.75 |
|      | B  | 0.52 | 0.00 | 0.48 |
|      | C  | 0.82 | 0.18 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.067 | 1.068 |
|      | B  | 1.119 | 1.000 | 1.029 |
|      | C  | 1.072 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |      |     |     |
|------|----|------|-----|-----|
|      |    | A    | B   | C   |
| From | A  | 0.0  | 6.7 | 6.8 |
|      | B  | 11.9 | 0.0 | 2.9 |
|      | C  | 7.2  | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.44    | 16.96         | 0.77            | C       | 137.64                  | 206.46                        | 45.34                          | 13.17                      | 0.50                                 | 45.34                                    | 13.18                                |
| C-AB   | 0.18    | 8.14          | 0.22            | A       | 82.59                   | 123.89                        | 15.21                          | 7.37                       | 0.17                                 | 15.21                                    | 7.37                                 |
| C-A    | -       | -             | -               | -       | 389.06                  | 583.59                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 170.68                  | 256.02                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 511.11                  | 766.67                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:15-07:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 112.93                | 28.23                   | 111.68              | 0.00                       | 468.51            | 0.241 | 0.00              | 0.31            | 10.054    | B   |
| C-AB   | 67.76                 | 16.94                   | 67.27               | 0.00                       | 616.10            | 0.110 | 0.00              | 0.12            | 6.554     | A   |
| C-A    | 319.21                | 79.80                   | 319.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 140.03                | 35.01                   | 140.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 419.34                | 104.83                  | 419.34              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:30-07:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 134.85                | 33.71                   | 134.31              | 0.00                       | 430.79            | 0.313 | 0.31              | 0.45            | 12.120    | B   |
| C-AB   | 80.91                 | 20.23                   | 80.76               | 0.00                       | 584.67            | 0.138 | 0.12              | 0.16            | 7.142     | A   |
| C-A    | 381.16                | 95.29                   | 381.16              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 167.21                | 41.80                   | 167.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 500.73                | 125.18                  | 500.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 165.15                | 41.29                   | 163.92              | 0.00                       | 377.31            | 0.438 | 0.45              | 0.75            | 16.772    | C   |
| C-AB   | 99.11                 | 24.78                   | 98.86               | 0.00                       | 541.26            | 0.183 | 0.16              | 0.22            | 8.133     | A   |
| C-A    | 466.82                | 116.70                  | 466.82              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 204.79                | 51.20                   | 204.79              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 613.27                | 153.32                  | 613.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 165.15                | 41.29                   | 165.11              | 0.00                       | 377.23            | 0.438 | 0.75              | 0.77            | 16.961    | C   |
| C-AB   | 99.11                 | 24.78                   | 99.11               | 0.00                       | 541.26            | 0.183 | 0.22              | 0.22            | 8.141     | A   |
| C-A    | 466.82                | 116.70                  | 466.82              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 204.79                | 51.20                   | 204.79              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 613.27                | 153.32                  | 613.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 134.85                | 33.71                   | 136.05              | 0.00                       | 430.68            | 0.313 | 0.77              | 0.46            | 12.267    | B   |
| C-AB   | 80.91                 | 20.23                   | 81.15               | 0.00                       | 584.68            | 0.138 | 0.22              | 0.16            | 7.155     | A   |
| C-A    | 381.16                | 95.29                   | 381.16              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 167.21                | 41.80                   | 167.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 500.73                | 125.18                  | 500.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 112.93                | 28.23                   | 113.50              | 0.00                       | 468.33            | 0.241 | 0.46              | 0.32            | 10.163    | B   |
| C-AB   | 67.76                 | 16.94                   | 67.91               | 0.00                       | 616.10            | 0.110 | 0.16              | 0.12            | 6.568     | A   |
| C-A    | 319.21                | 79.80                   | 319.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 140.03                | 35.01                   | 140.03              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 419.34                | 104.83                  | 419.34              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:15-07:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 4.47                           | 0.30                                 | 10.054                                 | B                             | B                           |
| C-AB   | 1.82                           | 0.12                                 | 6.554                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:30-07:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 6.46                           | 0.43                                 | 12.120                                 | B                             | B                           |
| C-AB   | 2.39                           | 0.16                                 | 7.142                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 10.67                          | 0.71                                 | 16.772                                 | C                             | B                           |
| C-AB   | 3.33                           | 0.22                                 | 8.133                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.42                          | 0.76                                 | 16.961                                 | C                             | B                           |
| C-AB   | 3.36                           | 0.22                                 | 8.141                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 7.31                           | 0.49                                 | 12.267                                 | B                             | B                           |
| C-AB   | 2.43                           | 0.16                                 | 7.155                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 5.01                           | 0.33                                 | 10.163                                 | B                             | B                           |
| C-AB   | 1.87                           | 0.12                                 | 6.568                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                            | Scenario Name                                               | Time Period Name | Description                                 | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-----------------------------------------------------------------|-------------------------------------------------------------|------------------|---------------------------------------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction (A12(N)) 2023, PM | Forecast Background + EA2 + EA1N Construction (A12(N)) 2023 | PM               | 100% of HGVs distributed from the A12 North | ONE HOUR             | 16:15                    | 17:45                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                 | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 2        | A12, B1122 and A1120 | T-Junction    | Two-way              | A,B,C     |                    | 30.22              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name       | Description | Arm Type |
|-----|-----|------------|-------------|----------|
| A   | A   | A12 (west) |             | Major    |
| B   | B   | B1122      |             | Minor    |
| C   | C   | A12 (east) |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 8.31                     |                            | 0.00                                | ✓                  | 4.09                     | 123.00                        | ✓       | 5.00                 |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|----------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane       | 5.00           |                       |                        |                       |                 |                  |                  |                  |                       |                    | 41                     | 75                      |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 2        | B-A    | 633.612            | 0.104         | 0.262         | 0.165         | 0.375         |
| 2        | B-C    | 805.539            | 0.111         | 0.281         | -             | -             |
| 2        | C-B    | 778.048            | 0.271         | 0.271         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 595.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 267.00                       | 100.000                 |
| C   | ONE HOUR     | ✓                  | 623.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:15-16:30  | A   | 447.95                            | 474.18                              |                                  |                                        |
| 16:15-16:30  | B   | 201.01                            | 207.19                              |                                  |                                        |
| 16:15-16:30  | C   | 469.03                            | 485.88                              |                                  |                                        |
| 16:30-16:45  | A   | 534.89                            | 566.22                              |                                  |                                        |
| 16:30-16:45  | B   | 240.03                            | 247.41                              |                                  |                                        |
| 16:30-16:45  | C   | 560.06                            | 580.19                              |                                  |                                        |
| 16:45-17:00  | A   | 655.11                            | 693.47                              |                                  |                                        |
| 16:45-17:00  | B   | 293.97                            | 303.01                              |                                  |                                        |
| 16:45-17:00  | C   | 685.94                            | 710.58                              |                                  |                                        |
| 17:00-17:15  | A   | 655.11                            | 693.47                              |                                  |                                        |
| 17:00-17:15  | B   | 293.97                            | 303.01                              |                                  |                                        |
| 17:00-17:15  | C   | 685.94                            | 710.58                              |                                  |                                        |
| 17:15-17:30  | A   | 534.89                            | 566.22                              |                                  |                                        |
| 17:15-17:30  | B   | 240.03                            | 247.41                              |                                  |                                        |
| 17:15-17:30  | C   | 560.06                            | 580.19                              |                                  |                                        |
| 17:30-17:45  | A   | 447.95                            | 474.18                              |                                  |                                        |
| 17:30-17:45  | B   | 201.01                            | 207.19                              |                                  |                                        |
| 17:30-17:45  | C   | 469.03                            | 485.88                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 2 (for whole period)

|      | To |         |        |         |
|------|----|---------|--------|---------|
|      |    | A       | B      | C       |
| From | A  | 0.000   | 73.000 | 522.000 |
|      | B  | 163.000 | 0.000  | 104.000 |
|      | C  | 574.000 | 49.000 | 0.000   |

## Turning Proportions (Veh) - Junction 2 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.12 | 0.88 |
|      | B  | 0.61 | 0.00 | 0.39 |
|      | C  | 0.92 | 0.08 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 2 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.084 | 1.055 |
|      | B  | 1.044 | 1.000 | 1.010 |
|      | C  | 1.039 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 2 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 8.4 | 5.5 |
|      | B  | 4.4 | 0.0 | 1.0 |
|      | C  | 3.9 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-AC   | 0.74    | 34.40         | 2.68            | D       | 245.00                  | 367.50                        | 128.64                         | 21.00                      | 1.43                                 | 128.67                                   | 21.01                                |
| C-AB   | 0.09    | 6.71          | 0.10            | A       | 44.96                   | 67.45                         | 7.09                           | 6.31                       | 0.08                                 | 7.09                                     | 6.31                                 |
| C-A    | -       | -             | -               | -       | 526.71                  | 790.07                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 66.99                   | 100.48                        | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 479.00                  | 718.49                        | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:15-16:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 201.01                | 50.25                   | 198.26              | 0.00                       | 486.34            | 0.413 | 0.00              | 0.69            | 12.384    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.65               | 0.00                       | 649.47            | 0.057 | 0.00              | 0.06            | 5.874     | A   |
| C-A    | 432.14                | 108.03                  | 432.14              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 54.96                 | 13.74                   | 54.96               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 392.99                | 98.25                   | 392.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:30-16:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 240.03                | 60.01                   | 238.36              | 0.00                       | 449.16            | 0.534 | 0.69              | 1.11            | 16.942    | C   |
| C-AB   | 44.05                 | 11.01                   | 43.99               | 0.00                       | 624.51            | 0.071 | 0.06              | 0.08            | 6.201     | A   |
| C-A    | 516.01                | 129.00                  | 516.01              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 65.63                 | 16.41                   | 65.63               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 469.27                | 117.32                  | 469.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 293.97                | 73.49                   | 288.26              | 0.00                       | 396.60            | 0.741 | 1.11              | 2.53            | 31.665    | D   |
| C-AB   | 53.95                 | 13.49                   | 53.85               | 0.00                       | 590.01            | 0.091 | 0.08              | 0.10            | 6.714     | A   |
| C-A    | 631.99                | 158.00                  | 631.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 80.37                 | 20.09                   | 80.37               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 574.73                | 143.68                  | 574.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 293.97                | 73.49                   | 293.39              | 0.00                       | 396.56            | 0.741 | 2.53              | 2.68            | 34.400    | D   |
| C-AB   | 53.95                 | 13.49                   | 53.95               | 0.00                       | 590.01            | 0.091 | 0.10              | 0.10            | 6.714     | A   |
| C-A    | 631.99                | 158.00                  | 631.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 80.37                 | 20.09                   | 80.37               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 574.73                | 143.68                  | 574.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 240.03                | 60.01                   | 245.97              | 0.00                       | 449.11            | 0.534 | 2.68              | 1.19            | 18.199    | C   |
| C-AB   | 44.05                 | 11.01                   | 44.15               | 0.00                       | 624.51            | 0.071 | 0.10              | 0.08            | 6.205     | A   |
| C-A    | 516.01                | 129.00                  | 516.01              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 65.63                 | 16.41                   | 65.63               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 469.27                | 117.32                  | 469.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-AC   | 201.01                | 50.25                   | 202.90              | 0.00                       | 486.24            | 0.413 | 1.19              | 0.72            | 12.787    | B   |
| C-AB   | 36.89                 | 9.22                    | 36.95               | 0.00                       | 649.47            | 0.057 | 0.08              | 0.06            | 5.879     | A   |
| C-A    | 432.14                | 108.03                  | 432.14              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 54.96                 | 13.74                   | 54.96               | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 392.99                | 98.25                   | 392.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:15-16:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 9.67                           | 0.64                                 | 12.384                                 | B                             | B                           |
| C-AB   | 0.89                           | 0.06                                 | 5.874                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:30-16:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 15.56                          | 1.04                                 | 16.942                                 | C                             | B                           |
| C-AB   | 1.13                           | 0.08                                 | 6.201                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 33.04                          | 2.20                                 | 31.665                                 | D                             | C                           |
| C-AB   | 1.50                           | 0.10                                 | 6.714                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 39.29                          | 2.62                                 | 34.400                                 | D                             | C                           |
| C-AB   | 1.51                           | 0.10                                 | 6.714                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 19.67                          | 1.31                                 | 18.199                                 | C                             | B                           |
| C-AB   | 1.15                           | 0.08                                 | 6.205                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-AC   | 11.41                          | 0.76                                 | 12.787                                 | B                             | B                           |
| C-AB   | 0.91                           | 0.06                                 | 5.879                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



# **East Anglia TWO Offshore Windfarm**

Junction 6



Junction 6 - A12 / Ufford Road Junction



Notes

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | A12         |
| -    | B   | Ufford Road |
| -    | C   | A12         |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

AM Peak Traffic

Wednesday 5th June 2019: 07:45AM - 08:45AM

Vehicles

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 705 | 705    |
| B       | 11   | 0 | 10  | 21     |
| C       | 1195 | 7 | 0   | 1202   |
| Totals  | 1206 | 7 | 715 | 1928   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 50 | 50     |
| B       | 1  | 0 | 1  | 2      |
| C       | 34 | 1 | 0  | 35     |
| Totals  | 35 | 1 | 51 | 87     |

Total

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 755 | 755    |
| B       | 12   | 0 | 11  | 23     |
| C       | 1229 | 8 | 0   | 1237   |
| Totals  | 1241 | 8 | 766 | 2015   |

%HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 0.0%  | 6.6% | 2%      |
| B       | 8.3% | 0.0%  | 9.1% | 6%      |
| C       | 2.8% | 12.5% | 0.0% | 5%      |
| Average | 4%   | 4%    | 5%   | 4%      |

PM Peak Traffic

Thursday 6th June 2019: 4:45PM - 5:45PM

Vehicles

| From/To | A   | B  | C    | Totals |
|---------|-----|----|------|--------|
| A       | 0   | 7  | 1023 | 1030   |
| B       | 5   | 0  | 8    | 13     |
| C       | 949 | 13 | 0    | 962    |
| Totals  | 954 | 20 | 1031 | 2005   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 16 | 16     |
| B       | 0  | 0 | 0  | 0      |
| C       | 24 | 0 | 0  | 24     |
| Totals  | 24 | 0 | 16 | 40     |

Total

| From/To | A   | B  | C    | Totals |
|---------|-----|----|------|--------|
| A       | 0   | 7  | 1039 | 1046   |
| B       | 5   | 0  | 8    | 13     |
| C       | 973 | 13 | 0    | 986    |
| Totals  | 978 | 20 | 1047 | 2045   |

%HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.5% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 0%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 0%      |

## Forecast Flows (2023)

Growth Factored Vehicles

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 746 | 746    |
| B       | 12   | 0 | 11  | 22     |
| C       | 1264 | 7 | 0   | 1271   |
| Totals  | 1276 | 7 | 756 | 2039   |

Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 53 | 53     |
| B       | 1  | 0 | 1  | 2      |
| C       | 36 | 1 | 0  | 37     |
| Totals  | 37 | 1 | 54 | 92     |

Growth Factored Total

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 799 | 799    |
| B       | 13   | 0 | 12  | 24     |
| C       | 1300 | 8 | 0   | 1308   |
| Totals  | 1313 | 8 | 810 | 2131   |

%HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 0.0%  | 6.6% | 2%      |
| B       | 8.3% | 0.0%  | 9.1% | 6%      |
| C       | 2.8% | 12.5% | 0.0% | 5%      |
| Average | 4%   | 4%    | 5%   | 4%      |

Growth Factored Vehicles

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1083 | 1091   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1005 | 14 | 0    | 1019   |
| Totals  | 1010 | 21 | 1092 | 2123   |

Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 17 | 17     |
| B       | 0  | 0 | 0  | 0      |
| C       | 25 | 0 | 0  | 25     |
| Totals  | 25 | 0 | 17 | 42     |

Growth Factored Total

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1100 | 1108   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1030 | 14 | 0    | 1044   |
| Totals  | 1036 | 21 | 1109 | 2165   |

%HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.5% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 0%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 0%      |

Junction 6 - A12 / Ufford Road Junction



Notes

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | A12         |
| -    | B   | Ufford Road |
| -    | C   | A12         |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## EA2 Construction Traffic Traffic (2023)

AM Peak Traffic

Vehicles

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 49 | 0      |
| B       | 0 | 0 | 0  | 0      |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 49 | 49     |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 11 | 11     |
| B       | 0  | 0 | 0  | 0      |
| C       | 11 | 0 | 0  | 11     |
| Totals  | 11 | 0 | 11 | 21     |

Total

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 59 | 59     |
| B       | 0  | 0 | 0  | 0      |
| C       | 11 | 0 | 0  | 11     |
| Totals  | 11 | 0 | 59 | 70     |

%HGV

| From/To | A      | B    | C     | Average |
|---------|--------|------|-------|---------|
| A       | 0.0%   | 0.0% | 17.8% | 6%      |
| B       | 0.0%   | 0.0% | 0.0%  | 0%      |
| C       | 100.0% | 0.0% | 0.0%  | 33%     |
| Average | 33%    | 0%   | 6%    | 13%     |

PM Peak Traffic

Vehicles

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 0 | 0 | 0      |
| B       | 0  | 0 | 0 | 0      |
| C       | 49 | 0 | 0 | 49     |
| Totals  | 49 | 0 | 0 | 49     |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 11 | 11     |
| B       | 0  | 0 | 0  | 0      |
| C       | 11 | 0 | 0  | 11     |
| Totals  | 11 | 0 | 11 | 21     |

Total

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 11 | 11     |
| B       | 0  | 0 | 0  | 0      |
| C       | 59 | 0 | 0  | 59     |
| Totals  | 59 | 0 | 11 | 70     |

%HGV

| From/To | A     | B    | C      | Average |
|---------|-------|------|--------|---------|
| A       | 0.0%  | 0.0% | 100.0% | 33%     |
| B       | 0.0%  | 0.0% | 0.0%   | 0%      |
| C       | 17.8% | 0.0% | 0.0%   | 6%      |
| Average | 6%    | 0%   | 33%    | 13%     |

## Forecast Flows + EA2 Construction Traffic Traffic (2023)

AM Peak Traffic

Vehicles

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 794 | 794    |
| B       | 12   | 0 | 11  | 22     |
| C       | 1264 | 7 | 0   | 1271   |
| Totals  | 1276 | 7 | 805 | 2088   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 63 | 63     |
| B       | 1  | 0 | 1  | 2      |
| C       | 46 | 1 | 0  | 48     |
| Totals  | 48 | 1 | 64 | 113    |

Total

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 858 | 858    |
| B       | 13   | 0 | 12  | 24     |
| C       | 1311 | 8 | 0   | 1319   |
| Totals  | 1323 | 8 | 869 | 2201   |

%HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 0.0%  | 7.4% | 2%      |
| B       | 8.3% | 0.0%  | 9.1% | 6%      |
| C       | 3.5% | 12.5% | 0.0% | 5%      |
| Average | 4%   | 4%    | 5%   | 5%      |

PM Peak Traffic

Vehicles

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1083 | 1091   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1053 | 14 | 0    | 1067   |
| Totals  | 1059 | 21 | 1092 | 2172   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 27 | 27     |
| B       | 0  | 0 | 0  | 0      |
| C       | 36 | 0 | 0  | 36     |
| Totals  | 36 | 0 | 27 | 63     |

Total

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1111 | 1118   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1089 | 14 | 0    | 1103   |
| Totals  | 1095 | 21 | 1119 | 2235   |

%HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 2.5% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 0%      |
| C       | 3.3% | 0.0% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

Junction 6 - A12 / Ufford Road Junction



Notes

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | A12 west    |
| -    | B   | Ufford Road |
| -    | C   | A12 east    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

AM Peak Traffic

Wednesday 5th June 2019: 07:45AM - 08:45AM

Vehicles

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 705 | 705    |
| B       | 11   | 0 | 10  | 21     |
| C       | 1195 | 7 | 0   | 1202   |
| Totals  | 1206 | 7 | 715 | 1928   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 50 | 50     |
| B       | 1  | 0 | 1  | 2      |
| C       | 34 | 1 | 0  | 35     |
| Totals  | 35 | 1 | 51 | 87     |

Total

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 755 | 755    |
| B       | 12   | 0 | 11  | 23     |
| C       | 1229 | 8 | 0   | 1237   |
| Totals  | 1241 | 8 | 766 | 2015   |

%HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 0.0%  | 6.6% | 2%      |
| B       | 8.3% | 0.0%  | 9.1% | 6%      |
| C       | 2.8% | 12.5% | 0.0% | 5%      |
| Average | 4%   | 4%    | 5%   | 4%      |

PM Peak Traffic

Thursday 6th June 2019: 4:45PM - 5:45PM

Vehicles

| From/To | A   | B  | C    | Totals |
|---------|-----|----|------|--------|
| A       | 0   | 7  | 1023 | 1030   |
| B       | 5   | 0  | 8    | 13     |
| C       | 949 | 13 | 0    | 962    |
| Totals  | 954 | 20 | 1031 | 2005   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 16 | 16     |
| B       | 0  | 0 | 0  | 0      |
| C       | 24 | 0 | 0  | 24     |
| Totals  | 24 | 0 | 16 | 40     |

Total

| From/To | A   | B  | C    | Totals |
|---------|-----|----|------|--------|
| A       | 0   | 7  | 1039 | 1046   |
| B       | 5   | 0  | 8    | 13     |
| C       | 973 | 13 | 0    | 986    |
| Totals  | 978 | 20 | 1047 | 2045   |

%HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.5% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 0%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 0%      |

## Forecast Flows (2023)

Growth Factored Vehicles

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 746 | 746    |
| B       | 12   | 0 | 11  | 22     |
| C       | 1264 | 7 | 0   | 1271   |
| Totals  | 1276 | 7 | 756 | 2039   |

Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 53 | 53     |
| B       | 1  | 0 | 1  | 2      |
| C       | 36 | 1 | 0  | 37     |
| Totals  | 37 | 1 | 54 | 92     |

Growth Factored Total

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 799 | 799    |
| B       | 13   | 0 | 12  | 24     |
| C       | 1300 | 8 | 0   | 1308   |
| Totals  | 1313 | 8 | 810 | 2131   |

%HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 0.0%  | 6.6% | 2%      |
| B       | 8.3% | 0.0%  | 9.1% | 6%      |
| C       | 2.8% | 12.5% | 0.0% | 5%      |
| Average | 4%   | 4%    | 5%   | 4%      |

Growth Factored Vehicles

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1083 | 1091   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1005 | 14 | 0    | 1019   |
| Totals  | 1010 | 21 | 1092 | 2123   |

Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 17 | 17     |
| B       | 0  | 0 | 0  | 0      |
| C       | 25 | 0 | 0  | 25     |
| Totals  | 25 | 0 | 17 | 42     |

Growth Factored Total

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1100 | 1108   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1030 | 14 | 0    | 1044   |
| Totals  | 1036 | 21 | 1109 | 2165   |

%HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.5% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 0%      |
| C       | 2.5% | 0.0% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 0%      |

Junction 6 - A12 / Ufford Road Junction



Notes

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | A12 west    |
| -    | B   | Ufford Road |
| -    | C   | A12 east    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

### EA2 + EA1N Construction Traffic Traffic (2023)

AM Peak Traffic

Vehicles

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 60 | 0      |
| B       | 0 | 0 | 0  | 0      |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 60 | 60     |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 14 | 14     |
| B       | 0  | 0 | 0  | 0      |
| C       | 14 | 0 | 0  | 14     |
| Totals  | 14 | 0 | 14 | 27     |

Total

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 74 | 74     |
| B       | 0  | 0 | 0  | 0      |
| C       | 14 | 0 | 0  | 14     |
| Totals  | 14 | 0 | 74 | 87     |

%HGV

| From/To | A      | B    | C     | Average |
|---------|--------|------|-------|---------|
| A       | 0.0%   | 0.0% | 18.3% | 6%      |
| B       | 0.0%   | 0.0% | 0.0%  | 0%      |
| C       | 100.0% | 0.0% | 0.0%  | 33%     |
| Average | 33%    | 0%   | 6%    | 13%     |

PM Peak Traffic

Vehicles

| From/To | A  | B | C | Totals |
|---------|----|---|---|--------|
| A       | 0  | 0 | 0 | 0      |
| B       | 0  | 0 | 0 | 0      |
| C       | 60 | 0 | 0 | 60     |
| Totals  | 60 | 0 | 0 | 60     |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 14 | 14     |
| B       | 0  | 0 | 0  | 0      |
| C       | 14 | 0 | 0  | 14     |
| Totals  | 14 | 0 | 14 | 27     |

Total

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 14 | 14     |
| B       | 0  | 0 | 0  | 0      |
| C       | 74 | 0 | 0  | 74     |
| Totals  | 74 | 0 | 14 | 87     |

%HGV

| From/To | A     | B    | C      | Average |
|---------|-------|------|--------|---------|
| A       | 0.0%  | 0.0% | 100.0% | 33%     |
| B       | 0.0%  | 0.0% | 0.0%   | 0%      |
| C       | 18.3% | 0.0% | 0.0%   | 6%      |
| Average | 6%    | 0%   | 33%    | 13%     |

### Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)

AM Peak Traffic

Vehicles

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 806 | 806    |
| B       | 12   | 0 | 11  | 22     |
| C       | 1264 | 7 | 0   | 1271   |
| Totals  | 1276 | 7 | 817 | 2100   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 66 | 66     |
| B       | 1  | 0 | 1  | 2      |
| C       | 49 | 1 | 0  | 51     |
| Totals  | 51 | 1 | 67 | 119    |

Total

| From/To | A    | B | C   | Totals |
|---------|------|---|-----|--------|
| A       | 0    | 0 | 872 | 872    |
| B       | 13   | 0 | 12  | 24     |
| C       | 1314 | 8 | 0   | 1322   |
| Totals  | 1326 | 8 | 884 | 2219   |

%HGV

| From/To | A    | B     | C    | Average |
|---------|------|-------|------|---------|
| A       | 0.0% | 0.0%  | 7.6% | 3%      |
| B       | 8.3% | 0.0%  | 9.1% | 6%      |
| C       | 3.8% | 12.5% | 0.0% | 5%      |
| Average | 4%   | 4%    | 6%   | 5%      |

PM Peak Traffic

Vehicles

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1083 | 1091   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1065 | 14 | 0    | 1079   |
| Totals  | 1070 | 21 | 1092 | 2183   |

HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 0 | 30 | 30     |
| B       | 0  | 0 | 0  | 0      |
| C       | 39 | 0 | 0  | 39     |
| Totals  | 39 | 0 | 30 | 69     |

Total

| From/To | A    | B  | C    | Totals |
|---------|------|----|------|--------|
| A       | 0    | 7  | 1114 | 1121   |
| B       | 5    | 0  | 8    | 14     |
| C       | 1104 | 14 | 0    | 1118   |
| Totals  | 1109 | 21 | 1122 | 2252   |

%HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.0% | 2.7% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 0%      |
| C       | 3.5% | 0.0% | 0.0% | 1%      |
| Average | 1%   | 0%   | 1%   | 1%      |

| Junctions 8                                                                                                                                                                 |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| PICADY 8 - Priority Intersection Module                                                                                                                                     |  |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |

**Filename:** Junction 6 - A12 and Ufford Road.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 15:51:14

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - » Existing Layout - Background 2019, AM
  - » Existing Layout - Background 2019, PM

## Summary of junction performance

|                                                                      | AM          |           |      |     | PM          |           |      |     |
|----------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| Existing Layout - Background 2019                                    |             |           |      |     |             |           |      |     |
| Stream B-C                                                           | 0.02        | 7.26      | 0.02 | A   | 0.02        | 7.83      | 0.02 | A   |
| Stream B-A                                                           | 0.09        | 24.67     | 0.08 | C   | 0.04        | 25.67     | 0.04 | D   |
| Stream C-AB                                                          | 0.02        | 7.71      | 0.02 | A   | 0.03        | 8.15      | 0.03 | A   |
| Stream C-A                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Existing Layout - Forecast Background + EA2 + EA1N Construction 2023 |             |           |      |     |             |           |      |     |
| Stream B-C                                                           | 0.03        | 8.05      | 0.03 | A   | 0.02        | 8.41      | 0.02 | A   |
| Stream B-A                                                           | 0.16        | 42.16     | 0.14 | E   | 0.07        | 45.49     | 0.07 | E   |
| Stream C-AB                                                          | 0.02        | 8.37      | 0.02 | A   | 0.04        | 8.72      | 0.04 | A   |
| Stream C-A                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Existing Layout - Forecast Background + EA2 Construction 2023        |             |           |      |     |             |           |      |     |
| Stream B-C                                                           | 0.03        | 7.94      | 0.03 | A   | 0.02        | 8.37      | 0.02 | A   |
| Stream B-A                                                           | 0.15        | 39.22     | 0.14 | E   | 0.06        | 42.53     | 0.06 | E   |
| Stream C-AB                                                          | 0.02        | 8.28      | 0.02 | A   | 0.04        | 8.69      | 0.04 | A   |
| Stream C-A                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Existing Layout - Forecast Background 2023                           |             |           |      |     |             |           |      |     |
| Stream B-C                                                           | 0.03        | 7.54      | 0.03 | A   | 0.02        | 8.21      | 0.02 | A   |
| Stream B-A                                                           | 0.12        | 30.84     | 0.11 | D   | 0.05        | 33.75     | 0.05 | D   |
| Stream C-AB                                                          | 0.02        | 7.93      | 0.02 | A   | 0.04        | 8.54      | 0.04 | A   |
| Stream C-A                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-B                                                           | -           | -         | -    | -   | -           | -         | -    | -   |
| Stream A-C                                                           | -           | -         | -    | -   | -           | -         | -    | -   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM" model duration: 07:45 - 09:15

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA2 Construction 2023, AM" model duration: 07:45 - 09:15

"D4 - Forecast Background + EA2 Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 07:45 - 09:15

"D8 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D9 - Background 2019, AM" model duration: 07:45 - 09:15

"D10 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 15:51:08

## File summary

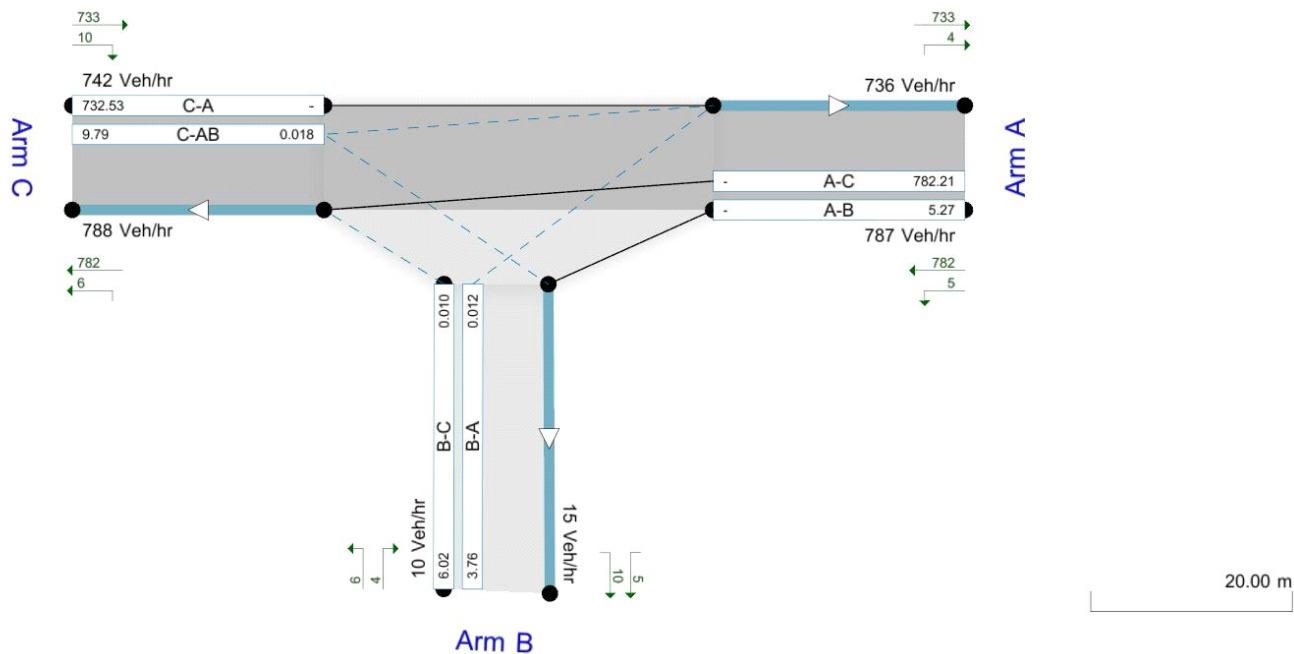
|                    |                                     |
|--------------------|-------------------------------------|
| <b>Title</b>       | East Anglia TWO Offshore Windfarm   |
| <b>Location</b>    | Junction of the A12 and Ufford Road |
| <b>Site Number</b> | J6                                  |
| <b>Date</b>        | 24/06/2019                          |
| <b>Version</b>     | D0.1                                |
| <b>Status</b>      | Existing Layout                     |
| <b>Identifier</b>  |                                     |
| <b>Client</b>      | Scottish Power                      |
| <b>Jobnumber</b>   | PB4842                              |
| <b>Enumerator</b>  | 304111                              |
| <b>Description</b> |                                     |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Streams (upstreams) show Total Demand (Veh/hr); Streams (downstreams) show RFC ()  
Time Segment: (07:45-08:00)  
Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |



## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 07:45                    | 09:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 16.71              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

### Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 700.097            | 0.118         | 0.297         | 0.187         | 0.425         |
| 6        | B-C    | 829.861            | 0.117         | 0.297         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 799.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 25.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 1308.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:45-08:00  | A   | 601.53                            | 641.23                              |                                  |                                        |
| 07:45-08:00  | B   | 18.82                             | 20.46                               |                                  |                                        |
| 07:45-08:00  | C   | 984.73                            | 1012.89                             |                                  |                                        |
| 08:00-08:15  | A   | 718.28                            | 765.69                              |                                  |                                        |
| 08:00-08:15  | B   | 22.47                             | 24.43                               |                                  |                                        |
| 08:00-08:15  | C   | 1175.87                           | 1209.49                             |                                  |                                        |
| 08:15-08:30  | A   | 879.72                            | 937.78                              |                                  |                                        |
| 08:15-08:30  | B   | 27.53                             | 29.92                               |                                  |                                        |
| 08:15-08:30  | C   | 1440.13                           | 1481.31                             |                                  |                                        |
| 08:30-08:45  | A   | 879.72                            | 937.78                              |                                  |                                        |
| 08:30-08:45  | B   | 27.53                             | 29.92                               |                                  |                                        |
| 08:30-08:45  | C   | 1440.13                           | 1481.31                             |                                  |                                        |
| 08:45-09:00  | A   | 718.28                            | 765.69                              |                                  |                                        |
| 08:45-09:00  | B   | 22.47                             | 24.43                               |                                  |                                        |
| 08:45-09:00  | C   | 1175.87                           | 1209.49                             |                                  |                                        |
| 09:00-09:15  | A   | 601.53                            | 641.23                              |                                  |                                        |
| 09:00-09:15  | B   | 18.82                             | 20.46                               |                                  |                                        |
| 09:00-09:15  | C   | 984.73                            | 1012.89                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

|      | To |          |       |         |
|------|----|----------|-------|---------|
|      |    | A        | B     | C       |
| From | A  | 0.000    | 0.000 | 799.000 |
|      | B  | 13.000   | 0.000 | 12.000  |
|      | C  | 1300.000 | 8.000 | 0.000   |

## Turning Proportions (Veh) - Junction 6 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.00 | 1.00 |
|      | B  | 0.52 | 0.00 | 0.48 |
|      | C  | 0.99 | 0.01 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.066 |
|      | B  | 1.083 | 1.000 | 1.091 |
|      | C  | 1.028 | 1.125 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 0.0  | 6.6 |
|      | B  | 8.3 | 0.0  | 9.1 |
|      | C  | 2.8 | 12.5 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.03    | 7.54          | 0.03            | A       | 11.01                   | 16.52                         | 1.89                           | 6.88                       | 0.02                                 | 1.89                                     | 6.88                                 |
| B-A    | 0.11    | 30.84         | 0.12            | D       | 11.93                   | 17.89                         | 6.13                           | 20.54                      | 0.07                                 | 6.13                                     | 20.54                                |
| C-AB   | 0.02    | 7.93          | 0.02            | A       | 7.34                    | 11.01                         | 1.35                           | 7.37                       | 0.02                                 | 1.35                                     | 7.37                                 |
| C-A    | -       | -             | -               | -       | 1192.90                 | 1789.35                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 0.00                    | 0.00                          | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 733.18                  | 1099.76                       | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.03                  | 2.26                    | 8.97                | 0.00                       | 581.42            | 0.016 | 0.00              | 0.02            | 6.288     | A   |
| B-A    | 9.79                  | 2.45                    | 9.65                | 0.00                       | 293.95            | 0.033 | 0.00              | 0.03            | 12.658    | B   |
| C-AB   | 6.02                  | 1.51                    | 5.98                | 0.00                       | 536.40            | 0.011 | 0.00              | 0.01            | 6.786     | A   |
| C-A    | 978.71                | 244.68                  | 978.71              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 601.53                | 150.38                  | 601.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 10.79                 | 2.70                    | 10.77               | 0.00                       | 545.01            | 0.020 | 0.02              | 0.02            | 6.738     | A   |
| B-A    | 11.69                 | 2.92                    | 11.61               | 0.00                       | 225.56            | 0.052 | 0.03              | 0.05            | 16.820    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.18                | 0.00                       | 505.44            | 0.014 | 0.01              | 0.01            | 7.224     | A   |
| C-A    | 1168.67               | 292.17                  | 1168.67             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 718.28                | 179.57                  | 718.28              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 13.21                 | 3.30                    | 13.18               | 0.00                       | 491.27            | 0.027 | 0.02              | 0.03            | 7.529     | A   |
| B-A    | 14.31                 | 3.58                    | 14.05               | 0.00                       | 130.95            | 0.109 | 0.05              | 0.12            | 30.731    | D   |
| C-AB   | 8.81                  | 2.20                    | 8.79                | 0.00                       | 462.63            | 0.019 | 0.01              | 0.02            | 7.932     | A   |
| C-A    | 1431.33               | 357.83                  | 1431.33             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 879.72                | 219.93                  | 879.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 13.21                 | 3.30                    | 13.21               | 0.00                       | 490.52            | 0.027 | 0.03              | 0.03            | 7.541     | A   |
| B-A    | 14.31                 | 3.58                    | 14.30               | 0.00                       | 131.02            | 0.109 | 0.12              | 0.12            | 30.838    | D   |
| C-AB   | 8.81                  | 2.20                    | 8.81                | 0.00                       | 462.63            | 0.019 | 0.02              | 0.02            | 7.932     | A   |
| C-A    | 1431.33               | 357.83                  | 1431.33             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 879.72                | 219.93                  | 879.72              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 10.79                 | 2.70                    | 10.82               | 0.00                       | 543.92            | 0.020 | 0.03              | 0.02            | 6.755     | A   |
| B-A    | 11.69                 | 2.92                    | 11.95               | 0.00                       | 225.77            | 0.052 | 0.12              | 0.06            | 16.855    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.21                | 0.00                       | 505.44            | 0.014 | 0.02              | 0.01            | 7.227     | A   |
| C-A    | 1168.67               | 292.17                  | 1168.67             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 718.28                | 179.57                  | 718.28              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (09:00-09:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.03                  | 2.26                    | 9.05                | 0.00                       | 580.79            | 0.016 | 0.02              | 0.02            | 6.296     | A   |
| B-A    | 9.79                  | 2.45                    | 9.87                | 0.00                       | 294.08            | 0.033 | 0.06              | 0.03            | 12.671    | B   |
| C-AB   | 6.02                  | 1.51                    | 6.04                | 0.00                       | 536.40            | 0.011 | 0.01              | 0.01            | 6.789     | A   |
| C-A    | 978.71                | 244.68                  | 978.71              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 601.53                | 150.38                  | 601.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Queueing Delay Results for each time segment

#### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.23                           | 0.02                                 | 6.288                                  | A                             | A                           |
| B-A    | 0.48                           | 0.03                                 | 12.658                                 | B                             | B                           |
| C-AB   | 0.17                           | 0.01                                 | 6.786                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.29                           | 0.02                                 | 6.738                                  | A                             | A                           |
| B-A    | 0.77                           | 0.05                                 | 16.820                                 | C                             | B                           |
| C-AB   | 0.22                           | 0.01                                 | 7.224                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.40                           | 0.03                                 | 7.529                                  | A                             | A                           |
| B-A    | 1.65                           | 0.11                                 | 30.731                                 | D                             | C                           |
| C-AB   | 0.29                           | 0.02                                 | 7.932                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

#### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.41                           | 0.03                                 | 7.541                                  | A                             | A                           |
| B-A    | 1.79                           | 0.12                                 | 30.838                                 | D                             | C                           |
| C-AB   | 0.29                           | 0.02                                 | 7.932                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:45-09:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.31                           | 0.02                                 | 6.755                                  | A                             | A                           |
| B-A    | 0.89                           | 0.06                                 | 16.855                                 | C                             | B                           |
| C-AB   | 0.22                           | 0.01                                 | 7.227                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (09:00-09:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.24                           | 0.02                                 | 6.296                                  | A                             | A                           |
| B-A    | 0.54                           | 0.04                                 | 12.671                                 | B                             | B                           |
| C-AB   | 0.17                           | 0.01                                 | 6.789                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 13.11              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 716.443            | 0.120         | 0.304         | 0.191         | 0.435         |
| 6        | B-C    | 810.016            | 0.115         | 0.290         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 1107.00                      | 100.000                 |
| B   | ONE HOUR     | ✓                  | 13.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 1044.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | A   | 833.41                            | 845.83                              |                                  |                                        |
| 16:45-17:00  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 16:45-17:00  | C   | 785.98                            | 805.36                              |                                  |                                        |
| 17:00-17:15  | A   | 995.17                            | 1010.00                             |                                  |                                        |
| 17:00-17:15  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:00-17:15  | C   | 938.53                            | 961.68                              |                                  |                                        |
| 17:15-17:30  | A   | 1218.83                           | 1237.00                             |                                  |                                        |
| 17:15-17:30  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:15-17:30  | C   | 1149.47                           | 1177.82                             |                                  |                                        |
| 17:30-17:45  | A   | 1218.83                           | 1237.00                             |                                  |                                        |
| 17:30-17:45  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:30-17:45  | C   | 1149.47                           | 1177.82                             |                                  |                                        |
| 17:45-18:00  | A   | 995.17                            | 1010.00                             |                                  |                                        |
| 17:45-18:00  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:45-18:00  | C   | 938.53                            | 961.68                              |                                  |                                        |
| 18:00-18:15  | A   | 833.41                            | 845.83                              |                                  |                                        |
| 18:00-18:15  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 18:00-18:15  | C   | 785.98                            | 805.36                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

|      | To |          |        |          |
|------|----|----------|--------|----------|
|      |    | A        | B      | C        |
| From | A  | 0.000    | 7.000  | 1100.000 |
|      | B  | 5.000    | 0.000  | 8.000    |
|      | C  | 1030.000 | 14.000 | 0.000    |

## Turning Proportions (Veh) - Junction 6 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.01 | 0.99 |
|      | B  | 0.38 | 0.00 | 0.62 |
|      | C  | 0.99 | 0.01 | 0.00 |



# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.015 |
|      | B  | 1.000 | 1.000 | 1.000 |
|      | C  | 1.025 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 1.5 |
|      | B  | 0.0 | 0.0 | 0.0 |
|      | C  | 2.5 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.02    | 8.21          | 0.02            | A       | 7.34                    | 11.01                         | 1.34                           | 7.29                       | 0.01                                 | 1.34                                     | 7.29                                 |
| B-A    | 0.05    | 33.75         | 0.05            | D       | 4.59                    | 6.88                          | 2.44                           | 21.30                      | 0.03                                 | 2.44                                     | 21.30                                |
| C-AB   | 0.04    | 8.54          | 0.04            | A       | 12.85                   | 19.27                         | 2.46                           | 7.65                       | 0.03                                 | 2.46                                     | 7.65                                 |
| C-A    | -       | -             | -               | -       | 945.15                  | 1417.72                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 6.42                    | 9.64                          | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 1009.38                 | 1514.07                       | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 5.98                | 0.00                       | 564.28            | 0.011 | 0.00              | 0.01            | 6.447     | A   |
| B-A    | 3.76                  | 0.94                    | 3.71                | 0.00                       | 303.30            | 0.012 | 0.00              | 0.01            | 12.015    | B   |
| C-AB   | 10.54                 | 2.63                    | 10.46               | 0.00                       | 546.19            | 0.019 | 0.00              | 0.02            | 6.719     | A   |
| C-A    | 775.44                | 193.86                  | 775.44              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 828.14                | 207.03                  | 828.14              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.18                | 0.00                       | 516.04            | 0.014 | 0.01              | 0.01            | 7.073     | A   |
| B-A    | 4.49                  | 1.12                    | 4.46                | 0.00                       | 223.08            | 0.020 | 0.01              | 0.02            | 16.466    | C   |
| C-AB   | 12.59                 | 3.15                    | 12.56               | 0.00                       | 500.25            | 0.025 | 0.02              | 0.03            | 7.381     | A   |
| C-A    | 925.95                | 231.49                  | 925.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 988.88                | 247.22                  | 988.88              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.78                | 0.00                       | 447.56            | 0.020 | 0.01              | 0.02            | 8.204     | A   |
| B-A    | 5.51                  | 1.38                    | 5.39                | 0.00                       | 112.19            | 0.049 | 0.02              | 0.05            | 33.671    | D   |
| C-AB   | 15.41                 | 3.85                    | 15.37               | 0.00                       | 436.73            | 0.035 | 0.03              | 0.04            | 8.542     | A   |
| C-A    | 1134.05               | 283.51                  | 1134.05             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1211.12               | 302.78                  | 1211.12             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.81                | 0.00                       | 447.44            | 0.020 | 0.02              | 0.02            | 8.206     | A   |
| B-A    | 5.51                  | 1.38                    | 5.50                | 0.00                       | 112.17            | 0.049 | 0.05              | 0.05            | 33.746    | D   |
| C-AB   | 15.41                 | 3.85                    | 15.41               | 0.00                       | 436.73            | 0.035 | 0.04              | 0.04            | 8.544     | A   |
| C-A    | 1134.05               | 283.51                  | 1134.05             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1211.12               | 302.78                  | 1211.12             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.21                | 0.00                       | 515.95            | 0.014 | 0.02              | 0.01            | 7.078     | A   |
| B-A    | 4.49                  | 1.12                    | 4.61                | 0.00                       | 223.05            | 0.020 | 0.05              | 0.02            | 16.490    | C   |
| C-AB   | 12.59                 | 3.15                    | 12.63               | 0.00                       | 500.25            | 0.025 | 0.04              | 0.03            | 7.382     | A   |
| C-A    | 925.95                | 231.49                  | 925.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 988.88                | 247.22                  | 988.88              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (18:00-18:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 6.04                | 0.00                       | 564.24            | 0.011 | 0.01              | 0.01            | 6.448     | A   |
| B-A    | 3.76                  | 0.94                    | 3.80                | 0.00                       | 303.25            | 0.012 | 0.02              | 0.01            | 12.024    | B   |
| C-AB   | 10.54                 | 2.63                    | 10.56               | 0.00                       | 546.19            | 0.019 | 0.03              | 0.02            | 6.720     | A   |
| C-A    | 775.44                | 193.86                  | 775.44              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 828.14                | 207.03                  | 828.14              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.16                           | 0.01                                 | 6.447                                  | A                             | A                           |
| B-A    | 0.18                           | 0.01                                 | 12.015                                 | B                             | B                           |
| C-AB   | 0.29                           | 0.02                                 | 6.719                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.21                           | 0.01                                 | 7.073                                  | A                             | A                           |
| B-A    | 0.29                           | 0.02                                 | 16.466                                 | C                             | B                           |
| C-AB   | 0.38                           | 0.03                                 | 7.381                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.29                           | 0.02                                 | 8.204                                  | A                             | A                           |
| B-A    | 0.69                           | 0.05                                 | 33.671                                 | D                             | C                           |
| C-AB   | 0.54                           | 0.04                                 | 8.542                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.30                           | 0.02                                 | 8.206                                  | A                             | A                           |
| B-A    | 0.75                           | 0.05                                 | 33.746                                 | D                             | C                           |
| C-AB   | 0.55                           | 0.04                                 | 8.544                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:45-18:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.22                           | 0.01                                 | 7.078                                  | A                             | A                           |
| B-A    | 0.33                           | 0.02                                 | 16.490                                 | C                             | B                           |
| C-AB   | 0.39                           | 0.03                                 | 7.382                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (18:00-18:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.17                           | 0.01                                 | 6.448                                  | A                             | A                           |
| B-A    | 0.20                           | 0.01                                 | 12.024                                 | B                             | B                           |
| C-AB   | 0.30                           | 0.02                                 | 6.720                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, AM | Forecast Background + EA2 Construction 2023 | AM               |             | ONE HOUR             | 07:45                    | 09:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 20.20              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 700.097            | 0.118         | 0.297         | 0.187         | 0.425         |
| 6        | B-C    | 829.861            | 0.117         | 0.297         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 858.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 25.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 1319.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:45-08:00  | A   | 645.95                            | 693.75                              |                                  |                                        |
| 07:45-08:00  | B   | 18.82                             | 20.46                               |                                  |                                        |
| 07:45-08:00  | C   | 993.01                            | 1028.31                             |                                  |                                        |
| 08:00-08:15  | A   | 771.32                            | 828.40                              |                                  |                                        |
| 08:00-08:15  | B   | 22.47                             | 24.43                               |                                  |                                        |
| 08:00-08:15  | C   | 1185.75                           | 1227.90                             |                                  |                                        |
| 08:15-08:30  | A   | 944.68                            | 1014.58                             |                                  |                                        |
| 08:15-08:30  | B   | 27.53                             | 29.92                               |                                  |                                        |
| 08:15-08:30  | C   | 1452.25                           | 1503.87                             |                                  |                                        |
| 08:30-08:45  | A   | 944.68                            | 1014.58                             |                                  |                                        |
| 08:30-08:45  | B   | 27.53                             | 29.92                               |                                  |                                        |
| 08:30-08:45  | C   | 1452.25                           | 1503.87                             |                                  |                                        |
| 08:45-09:00  | A   | 771.32                            | 828.40                              |                                  |                                        |
| 08:45-09:00  | B   | 22.47                             | 24.43                               |                                  |                                        |
| 08:45-09:00  | C   | 1185.75                           | 1227.90                             |                                  |                                        |
| 09:00-09:15  | A   | 645.95                            | 693.75                              |                                  |                                        |
| 09:00-09:15  | B   | 18.82                             | 20.46                               |                                  |                                        |
| 09:00-09:15  | C   | 993.01                            | 1028.31                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

|      |   | To       |       |         |
|------|---|----------|-------|---------|
| From |   | A        | B     | C       |
|      | A | 0.000    | 0.000 | 858.000 |
|      | B | 13.000   | 0.000 | 12.000  |
|      | C | 1311.000 | 8.000 | 0.000   |

## Turning Proportions (Veh) - Junction 6 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | A    | B    | C    |
|      | A | 0.00 | 0.00 | 1.00 |
|      | B | 0.52 | 0.00 | 0.48 |
|      | C | 0.99 | 0.01 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.074 |
|      | B  | 1.083 | 1.000 | 1.091 |
|      | C  | 1.035 | 1.125 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 0.0  | 7.4 |
|      | B  | 8.3 | 0.0  | 9.1 |
|      | C  | 3.5 | 12.5 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.03    | 7.94          | 0.03            | A       | 11.01                   | 16.52                         | 1.97                           | 7.15                       | 0.02                                 | 1.97                                     | 7.15                                 |
| B-A    | 0.14    | 39.22         | 0.15            | E       | 11.93                   | 17.89                         | 7.24                           | 24.26                      | 0.08                                 | 7.24                                     | 24.26                                |
| C-AB   | 0.02    | 8.28          | 0.02            | A       | 7.34                    | 11.01                         | 1.40                           | 7.63                       | 0.02                                 | 1.40                                     | 7.63                                 |
| C-A    | -       | -             | -               | -       | 1203.00                 | 1804.49                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 0.00                    | 0.00                          | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 787.32                  | 1180.97                       | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.03                  | 2.26                    | 8.97                | 0.00                       | 566.96            | 0.016 | 0.00              | 0.02            | 6.451     | A   |
| B-A    | 9.79                  | 2.45                    | 9.64                | 0.00                       | 276.86            | 0.035 | 0.00              | 0.04            | 13.465    | B   |
| C-AB   | 6.02                  | 1.51                    | 5.98                | 0.00                       | 523.34            | 0.012 | 0.00              | 0.01            | 6.958     | A   |
| C-A    | 986.99                | 246.75                  | 986.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 645.95                | 161.49                  | 645.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 10.79                 | 2.70                    | 10.77               | 0.00                       | 527.46            | 0.020 | 0.02              | 0.02            | 6.966     | A   |
| B-A    | 11.69                 | 2.92                    | 11.59               | 0.00                       | 205.16            | 0.057 | 0.04              | 0.06            | 18.591    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.18                | 0.00                       | 489.84            | 0.015 | 0.01              | 0.01            | 7.457     | A   |
| C-A    | 1178.56               | 294.64                  | 1178.56             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 771.32                | 192.83                  | 771.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 13.21                 | 3.30                    | 13.18               | 0.00                       | 467.64            | 0.028 | 0.02              | 0.03            | 7.921     | A   |
| B-A    | 14.31                 | 3.58                    | 13.95               | 0.00                       | 105.96            | 0.135 | 0.06              | 0.15            | 38.980    | E   |
| C-AB   | 8.81                  | 2.20                    | 8.79                | 0.00                       | 443.53            | 0.020 | 0.01              | 0.02            | 8.280     | A   |
| C-A    | 1443.44               | 360.86                  | 1443.44             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 944.68                | 236.17                  | 944.68              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 13.21                 | 3.30                    | 13.21               | 0.00                       | 466.54            | 0.028 | 0.03              | 0.03            | 7.940     | A   |
| B-A    | 14.31                 | 3.58                    | 14.30               | 0.00                       | 106.05            | 0.135 | 0.15              | 0.15            | 39.221    | E   |
| C-AB   | 8.81                  | 2.20                    | 8.81                | 0.00                       | 443.53            | 0.020 | 0.02              | 0.02            | 8.280     | A   |
| C-A    | 1443.44               | 360.86                  | 1443.44             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 944.68                | 236.17                  | 944.68              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 10.79                 | 2.70                    | 10.82               | 0.00                       | 525.98            | 0.021 | 0.03              | 0.02            | 6.990     | A   |
| B-A    | 11.69                 | 2.92                    | 12.05               | 0.00                       | 205.43            | 0.057 | 0.15              | 0.06            | 18.648    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.21                | 0.00                       | 489.84            | 0.015 | 0.02              | 0.02            | 7.458     | A   |
| C-A    | 1178.56               | 294.64                  | 1178.56             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 771.32                | 192.83                  | 771.32              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (09:00-09:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.03                  | 2.26                    | 9.05                | 0.00                       | 566.25            | 0.016 | 0.02              | 0.02            | 6.460     | A   |
| B-A    | 9.79                  | 2.45                    | 9.88                | 0.00                       | 277.01            | 0.035 | 0.06              | 0.04            | 13.483    | B   |
| C-AB   | 6.02                  | 1.51                    | 6.04                | 0.00                       | 523.34            | 0.012 | 0.02              | 0.01            | 6.961     | A   |
| C-A    | 986.99                | 246.75                  | 986.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 645.95                | 161.49                  | 645.95              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.23                           | 0.02                                 | 6.451                                  | A                             | A                           |
| B-A    | 0.51                           | 0.03                                 | 13.465                                 | B                             | B                           |
| C-AB   | 0.17                           | 0.01                                 | 6.958                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.30                           | 0.02                                 | 6.966                                  | A                             | A                           |
| B-A    | 0.85                           | 0.06                                 | 18.591                                 | C                             | B                           |
| C-AB   | 0.22                           | 0.01                                 | 7.457                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.42                           | 0.03                                 | 7.921                                  | A                             | A                           |
| B-A    | 2.04                           | 0.14                                 | 38.980                                 | E                             | D                           |
| C-AB   | 0.30                           | 0.02                                 | 8.280                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.43                           | 0.03                                 | 7.940                                  | A                             | A                           |
| B-A    | 2.26                           | 0.15                                 | 39.221                                 | E                             | D                           |
| C-AB   | 0.30                           | 0.02                                 | 8.280                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:45-09:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.32                           | 0.02                                 | 6.990                                  | A                             | A                           |
| B-A    | 0.99                           | 0.07                                 | 18.648                                 | C                             | B                           |
| C-AB   | 0.23                           | 0.02                                 | 7.458                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (09:00-09:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.25                           | 0.02                                 | 6.460                                  | A                             | A                           |
| B-A    | 0.58                           | 0.04                                 | 13.483                                 | B                             | B                           |
| C-AB   | 0.18                           | 0.01                                 | 6.961                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, PM | Forecast Background + EA2 Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 14.86              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 716.443            | 0.120         | 0.304         | 0.191         | 0.435         |
| 6        | B-C    | 810.016            | 0.115         | 0.290         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 1118.00                      | 100.000                 |
| B   | ONE HOUR     | ✓                  | 13.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 1103.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | A   | 841.69                            | 862.60                              |                                  |                                        |
| 16:45-17:00  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 16:45-17:00  | C   | 830.40                            | 857.45                              |                                  |                                        |
| 17:00-17:15  | A   | 1005.06                           | 1030.03                             |                                  |                                        |
| 17:00-17:15  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:00-17:15  | C   | 991.57                            | 1023.88                             |                                  |                                        |
| 17:15-17:30  | A   | 1230.94                           | 1261.52                             |                                  |                                        |
| 17:15-17:30  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:15-17:30  | C   | 1214.43                           | 1253.99                             |                                  |                                        |
| 17:30-17:45  | A   | 1230.94                           | 1261.52                             |                                  |                                        |
| 17:30-17:45  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:30-17:45  | C   | 1214.43                           | 1253.99                             |                                  |                                        |
| 17:45-18:00  | A   | 1005.06                           | 1030.03                             |                                  |                                        |
| 17:45-18:00  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:45-18:00  | C   | 991.57                            | 1023.88                             |                                  |                                        |
| 18:00-18:15  | A   | 841.69                            | 862.60                              |                                  |                                        |
| 18:00-18:15  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 18:00-18:15  | C   | 830.40                            | 857.45                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

|      | To |          |        |          |
|------|----|----------|--------|----------|
|      |    | A        | B      | C        |
| From | A  | 0.000    | 7.000  | 1111.000 |
|      | B  | 5.000    | 0.000  | 8.000    |
|      | C  | 1089.000 | 14.000 | 0.000    |

## Turning Proportions (Veh) - Junction 6 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
| From | A  | 0.00 | 0.01 | 0.99 |
|      | B  | 0.38 | 0.00 | 0.62 |
|      | C  | 0.99 | 0.01 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.025 |
|      | B  | 1.000 | 1.000 | 1.000 |
|      | C  | 1.033 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 2.5 |
|      | B  | 0.0 | 0.0 | 0.0 |
|      | C  | 3.3 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.02    | 8.37          | 0.02            | A       | 7.34                    | 11.01                         | 1.36                           | 7.40                       | 0.02                                 | 1.36                                     | 7.40                                 |
| B-A    | 0.06    | 42.53         | 0.06            | E       | 4.59                    | 6.88                          | 2.87                           | 25.01                      | 0.03                                 | 2.87                                     | 25.01                                |
| C-AB   | 0.04    | 8.69          | 0.04            | A       | 12.85                   | 19.27                         | 2.49                           | 7.75                       | 0.03                                 | 2.49                                     | 7.75                                 |
| C-A    | -       | -             | -               | -       | 999.29                  | 1498.93                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 6.42                    | 9.64                          | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 1019.47                 | 1529.21                       | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 5.98                | 0.00                       | 559.35            | 0.011 | 0.00              | 0.01            | 6.505     | A   |
| B-A    | 3.76                  | 0.94                    | 3.71                | 0.00                       | 288.23            | 0.013 | 0.00              | 0.01            | 12.652    | B   |
| C-AB   | 10.54                 | 2.63                    | 10.46               | 0.00                       | 541.50            | 0.019 | 0.00              | 0.02            | 6.779     | A   |
| C-A    | 819.86                | 204.96                  | 819.86              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 836.42                | 209.10                  | 836.42              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.18                | 0.00                       | 510.04            | 0.014 | 0.01              | 0.01            | 7.158     | A   |
| B-A    | 4.49                  | 1.12                    | 4.46                | 0.00                       | 205.08            | 0.022 | 0.01              | 0.02            | 17.942    | C   |
| C-AB   | 12.59                 | 3.15                    | 12.56               | 0.00                       | 494.65            | 0.025 | 0.02              | 0.03            | 7.466     | A   |
| C-A    | 978.99                | 244.75                  | 978.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 998.77                | 249.69                  | 998.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.78                | 0.00                       | 439.18            | 0.020 | 0.01              | 0.02            | 8.364     | A   |
| B-A    | 5.51                  | 1.38                    | 5.34                | 0.00                       | 90.15             | 0.061 | 0.02              | 0.06            | 42.376    | E   |
| C-AB   | 15.41                 | 3.85                    | 15.37               | 0.00                       | 429.87            | 0.036 | 0.03              | 0.04            | 8.684     | A   |
| C-A    | 1199.01               | 299.75                  | 1199.01             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1223.23               | 305.81                  | 1223.23             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.81                | 0.00                       | 438.98            | 0.020 | 0.02              | 0.02            | 8.368     | A   |
| B-A    | 5.51                  | 1.38                    | 5.50                | 0.00                       | 90.13             | 0.061 | 0.06              | 0.06            | 42.531    | E   |
| C-AB   | 15.41                 | 3.85                    | 15.41               | 0.00                       | 429.87            | 0.036 | 0.04              | 0.04            | 8.685     | A   |
| C-A    | 1199.01               | 299.75                  | 1199.01             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1223.23               | 305.81                  | 1223.23             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.22                | 0.00                       | 509.91            | 0.014 | 0.02              | 0.01            | 7.163     | A   |
| B-A    | 4.49                  | 1.12                    | 4.66                | 0.00                       | 205.05            | 0.022 | 0.06              | 0.02            | 17.978    | C   |
| C-AB   | 12.59                 | 3.15                    | 12.63               | 0.00                       | 494.65            | 0.025 | 0.04              | 0.03            | 7.468     | A   |
| C-A    | 978.99                | 244.75                  | 978.99              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 998.77                | 249.69                  | 998.77              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (18:00-18:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 6.04                | 0.00                       | 559.31            | 0.011 | 0.01              | 0.01            | 6.506     | A   |
| B-A    | 3.76                  | 0.94                    | 3.80                | 0.00                       | 288.18            | 0.013 | 0.02              | 0.01            | 12.660    | B   |
| C-AB   | 10.54                 | 2.63                    | 10.57               | 0.00                       | 541.50            | 0.019 | 0.03              | 0.02            | 6.779     | A   |
| C-A    | 819.86                | 204.96                  | 819.86              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 836.42                | 209.10                  | 836.42              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.16                           | 0.01                                 | 6.505                                  | A                             | A                           |
| B-A    | 0.19                           | 0.01                                 | 12.652                                 | B                             | B                           |
| C-AB   | 0.29                           | 0.02                                 | 6.779                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.21                           | 0.01                                 | 7.158                                  | A                             | A                           |
| B-A    | 0.32                           | 0.02                                 | 17.942                                 | C                             | B                           |
| C-AB   | 0.39                           | 0.03                                 | 7.466                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.30                           | 0.02                                 | 8.364                                  | A                             | A                           |
| B-A    | 0.85                           | 0.06                                 | 42.376                                 | E                             | D                           |
| C-AB   | 0.55                           | 0.04                                 | 8.684                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.31                           | 0.02                                 | 8.368                                  | A                             | A                           |
| B-A    | 0.94                           | 0.06                                 | 42.531                                 | E                             | D                           |
| C-AB   | 0.56                           | 0.04                                 | 8.685                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:45-18:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.22                           | 0.01                                 | 7.163                                  | A                             | A                           |
| B-A    | 0.37                           | 0.02                                 | 17.978                                 | C                             | B                           |
| C-AB   | 0.40                           | 0.03                                 | 7.468                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (18:00-18:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.17                           | 0.01                                 | 6.506                                  | A                             | A                           |
| B-A    | 0.21                           | 0.01                                 | 12.660                                 | B                             | B                           |
| C-AB   | 0.30                           | 0.02                                 | 6.779                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, AM | Forecast Background + EA2 + EA1N Construction 2023 | AM               |             | ONE HOUR             | 07:45                    | 09:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 21.41              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |



# Arms

## Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 700.097            | 0.118         | 0.297         | 0.187         | 0.425         |
| 6        | B-C    | 829.861            | 0.117         | 0.297         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 872.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 25.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 1322.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:45-08:00  | A   | 656.49                            | 706.38                              |                                  |                                        |
| 07:45-08:00  | B   | 18.82                             | 20.46                               |                                  |                                        |
| 07:45-08:00  | C   | 995.27                            | 1033.62                             |                                  |                                        |
| 08:00-08:15  | A   | 783.91                            | 843.49                              |                                  |                                        |
| 08:00-08:15  | B   | 22.47                             | 24.43                               |                                  |                                        |
| 08:00-08:15  | C   | 1188.45                           | 1234.24                             |                                  |                                        |
| 08:15-08:30  | A   | 960.09                            | 1033.06                             |                                  |                                        |
| 08:15-08:30  | B   | 27.53                             | 29.92                               |                                  |                                        |
| 08:15-08:30  | C   | 1455.55                           | 1511.63                             |                                  |                                        |
| 08:30-08:45  | A   | 960.09                            | 1033.06                             |                                  |                                        |
| 08:30-08:45  | B   | 27.53                             | 29.92                               |                                  |                                        |
| 08:30-08:45  | C   | 1455.55                           | 1511.63                             |                                  |                                        |
| 08:45-09:00  | A   | 783.91                            | 843.49                              |                                  |                                        |
| 08:45-09:00  | B   | 22.47                             | 24.43                               |                                  |                                        |
| 08:45-09:00  | C   | 1188.45                           | 1234.24                             |                                  |                                        |
| 09:00-09:15  | A   | 656.49                            | 706.38                              |                                  |                                        |
| 09:00-09:15  | B   | 18.82                             | 20.46                               |                                  |                                        |
| 09:00-09:15  | C   | 995.27                            | 1033.62                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

|      |   | To       |       |         |
|------|---|----------|-------|---------|
| From |   | A        | B     | C       |
|      | A | 0.000    | 0.000 | 872.000 |
|      | B | 13.000   | 0.000 | 12.000  |
|      | C | 1314.000 | 8.000 | 0.000   |

## Turning Proportions (Veh) - Junction 6 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | A    | B    | C    |
|      | A | 0.00 | 0.00 | 1.00 |
|      | B | 0.52 | 0.00 | 0.48 |
|      | C | 0.99 | 0.01 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.076 |
|      | B  | 1.083 | 1.000 | 1.091 |
|      | C  | 1.038 | 1.125 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 0.0  | 7.6 |
|      | B  | 8.3 | 0.0  | 9.1 |
|      | C  | 3.8 | 12.5 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.03    | 8.05          | 0.03            | A       | 11.01                   | 16.52                         | 1.99                           | 7.22                       | 0.02                                 | 1.99                                     | 7.22                                 |
| B-A    | 0.14    | 42.16         | 0.16            | E       | 11.93                   | 17.89                         | 7.60                           | 25.50                      | 0.08                                 | 7.60                                     | 25.50                                |
| C-AB   | 0.02    | 8.37          | 0.02            | A       | 7.34                    | 11.01                         | 1.41                           | 7.70                       | 0.02                                 | 1.41                                     | 7.70                                 |
| C-A    | -       | -             | -               | -       | 1205.75                 | 1808.62                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 0.00                    | 0.00                          | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 800.16                  | 1200.24                       | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.03                  | 2.26                    | 8.97                | 0.00                       | 563.48            | 0.016 | 0.00              | 0.02            | 6.492     | A   |
| B-A    | 9.79                  | 2.45                    | 9.64                | 0.00                       | 272.48            | 0.036 | 0.00              | 0.04            | 13.690    | B   |
| C-AB   | 6.02                  | 1.51                    | 5.98                | 0.00                       | 520.19            | 0.012 | 0.00              | 0.01            | 7.000     | A   |
| C-A    | 989.25                | 247.31                  | 989.25              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 656.49                | 164.12                  | 656.49              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 10.79                 | 2.70                    | 10.77               | 0.00                       | 523.21            | 0.021 | 0.02              | 0.02            | 7.024     | A   |
| B-A    | 11.69                 | 2.92                    | 11.59               | 0.00                       | 199.93            | 0.058 | 0.04              | 0.06            | 19.105    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.18                | 0.00                       | 486.09            | 0.015 | 0.01              | 0.01            | 7.516     | A   |
| C-A    | 1181.26               | 295.31                  | 1181.26             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 783.91                | 195.98                  | 783.91              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 13.21                 | 3.30                    | 13.18               | 0.00                       | 461.66            | 0.029 | 0.02              | 0.03            | 8.027     | A   |
| B-A    | 14.31                 | 3.58                    | 13.92               | 0.00                       | 99.55             | 0.144 | 0.06              | 0.16            | 41.848    | E   |
| C-AB   | 8.81                  | 2.20                    | 8.79                | 0.00                       | 438.93            | 0.020 | 0.01              | 0.02            | 8.369     | A   |
| C-A    | 1446.74               | 361.69                  | 1446.74             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 960.09                | 240.02                  | 960.09              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 13.21                 | 3.30                    | 13.21               | 0.00                       | 460.43            | 0.029 | 0.03              | 0.03            | 8.049     | A   |
| B-A    | 14.31                 | 3.58                    | 14.30               | 0.00                       | 99.64             | 0.144 | 0.16              | 0.16            | 42.162    | E   |
| C-AB   | 8.81                  | 2.20                    | 8.81                | 0.00                       | 438.93            | 0.020 | 0.02              | 0.02            | 8.369     | A   |
| C-A    | 1446.74               | 361.69                  | 1446.74             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 960.09                | 240.02                  | 960.09              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 10.79                 | 2.70                    | 10.82               | 0.00                       | 521.60            | 0.021 | 0.03              | 0.02            | 7.047     | A   |
| B-A    | 11.69                 | 2.92                    | 12.09               | 0.00                       | 200.21            | 0.058 | 0.16              | 0.06            | 19.173    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.21                | 0.00                       | 486.09            | 0.015 | 0.02              | 0.02            | 7.519     | A   |
| C-A    | 1181.26               | 295.31                  | 1181.26             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 783.91                | 195.98                  | 783.91              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (09:00-09:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.03                  | 2.26                    | 9.05                | 0.00                       | 562.74            | 0.016 | 0.02              | 0.02            | 6.503     | A   |
| B-A    | 9.79                  | 2.45                    | 9.89                | 0.00                       | 272.63            | 0.036 | 0.06              | 0.04            | 13.708    | B   |
| C-AB   | 6.02                  | 1.51                    | 6.04                | 0.00                       | 520.19            | 0.012 | 0.02              | 0.01            | 7.001     | A   |
| C-A    | 989.25                | 247.31                  | 989.25              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 656.49                | 164.12                  | 656.49              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.24                           | 0.02                                 | 6.492                                  | A                             | A                           |
| B-A    | 0.52                           | 0.03                                 | 13.690                                 | B                             | B                           |
| C-AB   | 0.17                           | 0.01                                 | 7.000                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.31                           | 0.02                                 | 7.024                                  | A                             | A                           |
| B-A    | 0.87                           | 0.06                                 | 19.105                                 | C                             | B                           |
| C-AB   | 0.22                           | 0.01                                 | 7.516                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.43                           | 0.03                                 | 8.027                                  | A                             | A                           |
| B-A    | 2.17                           | 0.14                                 | 41.848                                 | E                             | D                           |
| C-AB   | 0.30                           | 0.02                                 | 8.369                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.44                           | 0.03                                 | 8.049                                  | A                             | A                           |
| B-A    | 2.43                           | 0.16                                 | 42.162                                 | E                             | D                           |
| C-AB   | 0.31                           | 0.02                                 | 8.369                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:45-09:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.33                           | 0.02                                 | 7.047                                  | A                             | A                           |
| B-A    | 1.02                           | 0.07                                 | 19.173                                 | C                             | B                           |
| C-AB   | 0.23                           | 0.02                                 | 7.519                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (09:00-09:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.25                           | 0.02                                 | 6.503                                  | A                             | A                           |
| B-A    | 0.59                           | 0.04                                 | 13.708                                 | B                             | B                           |
| C-AB   | 0.18                           | 0.01                                 | 7.001                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, PM | Forecast Background + EA2 + EA1N Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 15.44              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 716.443            | 0.120         | 0.304         | 0.191         | 0.435         |
| 6        | B-C    | 810.016            | 0.115         | 0.290         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 1121.00                      | 100.000                 |
| B   | ONE HOUR     | ✓                  | 13.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 1118.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | A   | 843.95                            | 866.59                              |                                  |                                        |
| 16:45-17:00  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 16:45-17:00  | C   | 841.69                            | 870.78                              |                                  |                                        |
| 17:00-17:15  | A   | 1007.76                           | 1034.80                             |                                  |                                        |
| 17:00-17:15  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:00-17:15  | C   | 1005.06                           | 1039.80                             |                                  |                                        |
| 17:15-17:30  | A   | 1234.24                           | 1267.36                             |                                  |                                        |
| 17:15-17:30  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:15-17:30  | C   | 1230.94                           | 1273.48                             |                                  |                                        |
| 17:30-17:45  | A   | 1234.24                           | 1267.36                             |                                  |                                        |
| 17:30-17:45  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:30-17:45  | C   | 1230.94                           | 1273.48                             |                                  |                                        |
| 17:45-18:00  | A   | 1007.76                           | 1034.80                             |                                  |                                        |
| 17:45-18:00  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:45-18:00  | C   | 1005.06                           | 1039.80                             |                                  |                                        |
| 18:00-18:15  | A   | 843.95                            | 866.59                              |                                  |                                        |
| 18:00-18:15  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 18:00-18:15  | C   | 841.69                            | 870.78                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

|      | To |          |        |
|------|----|----------|--------|
|      | A  | B        | C      |
| From | A  | 0.000    | 7.000  |
|      | B  | 5.000    | 0.000  |
|      | C  | 1104.000 | 14.000 |

## Turning Proportions (Veh) - Junction 6 (for whole period)

|      | To |      |      |
|------|----|------|------|
|      | A  | B    | C    |
| From | A  | 0.00 | 0.01 |
|      | B  | 0.38 | 0.00 |
|      | C  | 0.99 | 0.01 |



# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.027 |
|      | B  | 1.000 | 1.000 | 1.000 |
|      | C  | 1.035 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 2.7 |
|      | B  | 0.0 | 0.0 | 0.0 |
|      | C  | 3.5 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.02    | 8.41          | 0.02            | A       | 7.34                    | 11.01                         | 1.36                           | 7.42                       | 0.02                                 | 1.36                                     | 7.42                                 |
| B-A    | 0.07    | 45.49         | 0.07            | E       | 4.59                    | 6.88                          | 3.00                           | 26.19                      | 0.03                                 | 3.00                                     | 26.19                                |
| C-AB   | 0.04    | 8.72          | 0.04            | A       | 12.85                   | 19.27                         | 2.50                           | 7.77                       | 0.03                                 | 2.50                                     | 7.77                                 |
| C-A    | -       | -             | -               | -       | 1013.05                 | 1519.57                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 6.42                    | 9.64                          | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 5.98                | 0.00                       | 558.17            | 0.011 | 0.00              | 0.01            | 6.519     | A   |
| B-A    | 3.76                  | 0.94                    | 3.71                | 0.00                       | 284.46            | 0.013 | 0.00              | 0.01            | 12.823    | B   |
| C-AB   | 10.54                 | 2.63                    | 10.46               | 0.00                       | 540.38            | 0.020 | 0.00              | 0.02            | 6.793     | A   |
| C-A    | 831.15                | 207.79                  | 831.15              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 838.68                | 209.67                  | 838.68              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.18                | 0.00                       | 508.60            | 0.014 | 0.01              | 0.01            | 7.178     | A   |
| B-A    | 4.49                  | 1.12                    | 4.46                | 0.00                       | 200.58            | 0.022 | 0.01              | 0.02            | 18.356    | C   |
| C-AB   | 12.59                 | 3.15                    | 12.56               | 0.00                       | 493.31            | 0.026 | 0.02              | 0.03            | 7.487     | A   |
| C-A    | 992.47                | 248.12                  | 992.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1001.46               | 250.37                  | 1001.46             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.78                | 0.00                       | 437.06            | 0.020 | 0.01              | 0.02            | 8.405     | A   |
| B-A    | 5.51                  | 1.38                    | 5.33                | 0.00                       | 84.64             | 0.065 | 0.02              | 0.07            | 45.307    | E   |
| C-AB   | 15.41                 | 3.85                    | 15.37               | 0.00                       | 428.23            | 0.036 | 0.03              | 0.04            | 8.718     | A   |
| C-A    | 1215.53               | 303.88                  | 1215.53             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1226.54               | 306.63                  | 1226.54             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.81                | 0.00                       | 436.83            | 0.020 | 0.02              | 0.02            | 8.410     | A   |
| B-A    | 5.51                  | 1.38                    | 5.50                | 0.00                       | 84.62             | 0.065 | 0.07              | 0.07            | 45.490    | E   |
| C-AB   | 15.41                 | 3.85                    | 15.41               | 0.00                       | 428.23            | 0.036 | 0.04              | 0.04            | 8.720     | A   |
| C-A    | 1215.53               | 303.88                  | 1215.53             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1226.54               | 306.63                  | 1226.54             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.22                | 0.00                       | 508.46            | 0.014 | 0.02              | 0.01            | 7.181     | A   |
| B-A    | 4.49                  | 1.12                    | 4.67                | 0.00                       | 200.55            | 0.022 | 0.07              | 0.02            | 18.396    | C   |
| C-AB   | 12.59                 | 3.15                    | 12.63               | 0.00                       | 493.31            | 0.026 | 0.04              | 0.03            | 7.491     | A   |
| C-A    | 992.47                | 248.12                  | 992.47              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1001.46               | 250.37                  | 1001.46             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (18:00-18:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 6.04                | 0.00                       | 558.13            | 0.011 | 0.01              | 0.01            | 6.520     | A   |
| B-A    | 3.76                  | 0.94                    | 3.80                | 0.00                       | 284.41            | 0.013 | 0.02              | 0.01            | 12.830    | B   |
| C-AB   | 10.54                 | 2.63                    | 10.57               | 0.00                       | 540.38            | 0.020 | 0.03              | 0.02            | 6.796     | A   |
| C-A    | 831.15                | 207.79                  | 831.15              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 838.68                | 209.67                  | 838.68              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.16                           | 0.01                                 | 6.519                                  | A                             | A                           |
| B-A    | 0.19                           | 0.01                                 | 12.823                                 | B                             | B                           |
| C-AB   | 0.29                           | 0.02                                 | 6.793                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.21                           | 0.01                                 | 7.178                                  | A                             | A                           |
| B-A    | 0.32                           | 0.02                                 | 18.356                                 | C                             | B                           |
| C-AB   | 0.39                           | 0.03                                 | 7.487                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.30                           | 0.02                                 | 8.405                                  | A                             | A                           |
| B-A    | 0.90                           | 0.06                                 | 45.307                                 | E                             | D                           |
| C-AB   | 0.55                           | 0.04                                 | 8.718                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.31                           | 0.02                                 | 8.410                                  | A                             | A                           |
| B-A    | 1.01                           | 0.07                                 | 45.490                                 | E                             | D                           |
| C-AB   | 0.56                           | 0.04                                 | 8.720                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:45-18:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.22                           | 0.01                                 | 7.181                                  | A                             | A                           |
| B-A    | 0.38                           | 0.03                                 | 18.396                                 | C                             | B                           |
| C-AB   | 0.40                           | 0.03                                 | 7.491                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (18:00-18:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.17                           | 0.01                                 | 6.520                                  | A                             | A                           |
| B-A    | 0.21                           | 0.01                                 | 12.830                                 | B                             | B                           |
| C-AB   | 0.30                           | 0.02                                 | 6.796                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, AM | Background 2019 | AM               |             | ONE HOUR             | 07:45                    | 09:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 14.04              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 700.296            | 0.118         | 0.297         | 0.187         | 0.425         |
| 6        | B-C    | 829.477            | 0.117         | 0.296         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 755.00                       | 100.000                 |
| B   | ONE HOUR     | ✓                  | 23.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 1237.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 07:45-08:00  | A   | 568.40                            | 605.92                              |                                  |                                        |
| 07:45-08:00  | B   | 17.32                             | 18.82                               |                                  |                                        |
| 07:45-08:00  | C   | 931.28                            | 957.94                              |                                  |                                        |
| 08:00-08:15  | A   | 678.73                            | 723.53                              |                                  |                                        |
| 08:00-08:15  | B   | 20.68                             | 22.47                               |                                  |                                        |
| 08:00-08:15  | C   | 1112.04                           | 1143.87                             |                                  |                                        |
| 08:15-08:30  | A   | 831.27                            | 886.13                              |                                  |                                        |
| 08:15-08:30  | B   | 25.32                             | 27.52                               |                                  |                                        |
| 08:15-08:30  | C   | 1361.96                           | 1400.95                             |                                  |                                        |
| 08:30-08:45  | A   | 831.27                            | 886.13                              |                                  |                                        |
| 08:30-08:45  | B   | 25.32                             | 27.52                               |                                  |                                        |
| 08:30-08:45  | C   | 1361.96                           | 1400.95                             |                                  |                                        |
| 08:45-09:00  | A   | 678.73                            | 723.53                              |                                  |                                        |
| 08:45-09:00  | B   | 20.68                             | 22.47                               |                                  |                                        |
| 08:45-09:00  | C   | 1112.04                           | 1143.87                             |                                  |                                        |
| 09:00-09:15  | A   | 568.40                            | 605.92                              |                                  |                                        |
| 09:00-09:15  | B   | 17.32                             | 18.82                               |                                  |                                        |
| 09:00-09:15  | C   | 931.28                            | 957.94                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

|  | To |          |       |         |
|--|----|----------|-------|---------|
|  |    | A        | B     | C       |
|  | A  | 0.000    | 0.000 | 755.000 |
|  | B  | 12.000   | 0.000 | 11.000  |
|  | C  | 1229.000 | 8.000 | 0.000   |

## Turning Proportions (Veh) - Junction 6 (for whole period)

|  | To |      |      |      |
|--|----|------|------|------|
|  |    | A    | B    | C    |
|  | A  | 0.00 | 0.00 | 1.00 |
|  | B  | 0.52 | 0.00 | 0.48 |
|  | C  | 0.99 | 0.01 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.066 |
|      | B  | 1.083 | 1.000 | 1.091 |
|      | C  | 1.028 | 1.125 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      |    | A   | B    | C   |
| From | A  | 0.0 | 0.0  | 6.6 |
|      | B  | 8.3 | 0.0  | 9.1 |
|      | C  | 2.8 | 12.5 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.02    | 7.26          | 0.02            | A       | 10.09                   | 15.14                         | 1.69                           | 6.69                       | 0.02                                 | 1.69                                     | 6.69                                 |
| B-A    | 0.08    | 24.67         | 0.09            | C       | 11.01                   | 16.52                         | 4.83                           | 17.55                      | 0.05                                 | 4.83                                     | 17.55                                |
| C-AB   | 0.02    | 7.71          | 0.02            | A       | 7.34                    | 11.01                         | 1.32                           | 7.21                       | 0.01                                 | 1.32                                     | 7.21                                 |
| C-A    | -       | -             | -               | -       | 1127.75                 | 1691.63                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 0.00                    | 0.00                          | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 692.80                  | 1039.20                       | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (07:45-08:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.28                  | 2.07                    | 8.22                | 0.00                       | 591.33            | 0.014 | 0.00              | 0.01            | 6.173     | A   |
| B-A    | 9.03                  | 2.26                    | 8.92                | 0.00                       | 313.22            | 0.029 | 0.00              | 0.03            | 11.827    | B   |
| C-AB   | 6.02                  | 1.51                    | 5.98                | 0.00                       | 545.18            | 0.011 | 0.00              | 0.01            | 6.676     | A   |
| C-A    | 925.26                | 231.31                  | 925.26              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 568.40                | 142.10                  | 568.40              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:00-08:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.89                  | 2.47                    | 9.87                | 0.00                       | 557.29            | 0.018 | 0.01              | 0.02            | 6.575     | A   |
| B-A    | 10.79                 | 2.70                    | 10.73               | 0.00                       | 248.54            | 0.043 | 0.03              | 0.04            | 15.134    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.18                | 0.00                       | 515.93            | 0.014 | 0.01              | 0.01            | 7.075     | A   |
| C-A    | 1104.85               | 276.21                  | 1104.85             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 678.73                | 169.68                  | 678.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:15-08:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 12.11                 | 3.03                    | 12.09               | 0.00                       | 508.25            | 0.024 | 0.02              | 0.02            | 7.255     | A   |
| B-A    | 13.21                 | 3.30                    | 13.04               | 0.00                       | 159.06            | 0.083 | 0.04              | 0.09            | 24.625    | C   |
| C-AB   | 8.81                  | 2.20                    | 8.79                | 0.00                       | 475.48            | 0.019 | 0.01              | 0.02            | 7.713     | A   |
| C-A    | 1353.15               | 338.29                  | 1353.15             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 831.27                | 207.82                  | 831.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:30-08:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 12.11                 | 3.03                    | 12.11               | 0.00                       | 507.75            | 0.024 | 0.02              | 0.02            | 7.262     | A   |
| B-A    | 13.21                 | 3.30                    | 13.21               | 0.00                       | 159.12            | 0.083 | 0.09              | 0.09            | 24.670    | C   |
| C-AB   | 8.81                  | 2.20                    | 8.81                | 0.00                       | 475.48            | 0.019 | 0.02              | 0.02            | 7.713     | A   |
| C-A    | 1353.15               | 338.29                  | 1353.15             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 831.27                | 207.82                  | 831.27              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (08:45-09:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 9.89                  | 2.47                    | 9.91                | 0.00                       | 556.50            | 0.018 | 0.02              | 0.02            | 6.588     | A   |
| B-A    | 10.79                 | 2.70                    | 10.96               | 0.00                       | 248.71            | 0.043 | 0.09              | 0.05            | 15.151    | C   |
| C-AB   | 7.19                  | 1.80                    | 7.21                | 0.00                       | 515.93            | 0.014 | 0.02              | 0.01            | 7.078     | A   |
| C-A    | 1104.85               | 276.21                  | 1104.85             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 678.73                | 169.68                  | 678.73              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (09:00-09:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.28                  | 2.07                    | 8.30                | 0.00                       | 590.79            | 0.014 | 0.02              | 0.01            | 6.182     | A   |
| B-A    | 9.03                  | 2.26                    | 9.10                | 0.00                       | 313.34            | 0.029 | 0.05              | 0.03            | 11.834    | B   |
| C-AB   | 6.02                  | 1.51                    | 6.03                | 0.00                       | 545.18            | 0.011 | 0.01              | 0.01            | 6.676     | A   |
| C-A    | 925.26                | 231.31                  | 925.26              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 0.00                  | 0.00                    | 0.00                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 568.40                | 142.10                  | 568.40              | 0.00                       | -                 | -     | -                 | -               | -         | -   |



## Queueing Delay Results for each time segment

### Queueing Delay results: (07:45-08:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.21                           | 0.01                                 | 6.173                                  | A                             | A                           |
| B-A    | 0.42                           | 0.03                                 | 11.827                                 | B                             | B                           |
| C-AB   | 0.17                           | 0.01                                 | 6.676                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:00-08:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.26                           | 0.02                                 | 6.575                                  | A                             | A                           |
| B-A    | 0.64                           | 0.04                                 | 15.134                                 | C                             | B                           |
| C-AB   | 0.21                           | 0.01                                 | 7.075                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:15-08:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.36                           | 0.02                                 | 7.255                                  | A                             | A                           |
| B-A    | 1.24                           | 0.08                                 | 24.625                                 | C                             | C                           |
| C-AB   | 0.28                           | 0.02                                 | 7.713                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:30-08:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.36                           | 0.02                                 | 7.262                                  | A                             | A                           |
| B-A    | 1.33                           | 0.09                                 | 24.670                                 | C                             | C                           |
| C-AB   | 0.28                           | 0.02                                 | 7.713                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (08:45-09:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.28                           | 0.02                                 | 6.588                                  | A                             | A                           |
| B-A    | 0.73                           | 0.05                                 | 15.151                                 | C                             | B                           |
| C-AB   | 0.21                           | 0.01                                 | 7.078                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (09:00-09:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.22                           | 0.01                                 | 6.182                                  | A                             | A                           |
| B-A    | 0.47                           | 0.03                                 | 11.834                                 | B                             | B                           |
| C-AB   | 0.17                           | 0.01                                 | 6.676                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | N/A                       |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, PM | Background 2019 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name             | Junction Type | Major Road Direction | Arm Order | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------------|---------------|----------------------|-----------|--------------------|--------------------|--------------|
| 6        | A12, Ufford Road | T-Junction    | Two-way              | A,B,C     |                    | 11.42              | B            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description | Arm Type |
|-----|-----|-------------|-------------|----------|
| A   | A   | A12 (west)  |             | Major    |
| B   | B   | Ufford Road |             | Minor    |
| C   | C   | A12 (east)  |             | Major    |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Width of kerbed central reserve (m) | Has right turn bay | Width For Right Turn (m) | Visibility For Right Turn (m) | Blocks? | Blocking Queue (PCU) |
|-----|--------------------------|----------------------------|-------------------------------------|--------------------|--------------------------|-------------------------------|---------|----------------------|
| C   | 7.78                     |                            | 0.00                                | ✓                  | 4.26                     | 113.00                        | ✓       | 12.00                |

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

## Minor Arm Geometry

| Arm | Minor Arm Type      | Lane Width (m) | Lane Width (Left) (m) | Lane Width (Right) (m) | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate Flare Length | Flare Length (PCU) | Visibility To Left (m) | Visibility To Right (m) |
|-----|---------------------|----------------|-----------------------|------------------------|-----------------------|-----------------|------------------|------------------|------------------|-----------------------|--------------------|------------------------|-------------------------|
| B   | One lane plus flare |                |                       |                        | 10.00                 | 10.00           | 9.45             | 4.31             | 3.53             | ✓                     | 2.00               | 198                    | 121                     |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|----------|--------|--------------------|---------------|---------------|---------------|---------------|
| 6        | B-A    | 716.443            | 0.120         | 0.304         | 0.191         | 0.435         |
| 6        | B-C    | 810.016            | 0.115         | 0.290         | -             | -             |
| 6        | C-B    | 782.895            | 0.280         | 0.280         | -             | -             |

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| A   | ONE HOUR     | ✓                  | 1046.00                      | 100.000                 |
| B   | ONE HOUR     | ✓                  | 13.00                        | 100.000                 |
| C   | ONE HOUR     | ✓                  | 986.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | A   | 787.48                            | 799.22                              |                                  |                                        |
| 16:45-17:00  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 16:45-17:00  | C   | 742.31                            | 760.63                              |                                  |                                        |
| 17:00-17:15  | A   | 940.33                            | 954.34                              |                                  |                                        |
| 17:00-17:15  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:00-17:15  | C   | 886.39                            | 908.26                              |                                  |                                        |
| 17:15-17:30  | A   | 1151.67                           | 1168.83                             |                                  |                                        |
| 17:15-17:30  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:15-17:30  | C   | 1085.61                           | 1112.39                             |                                  |                                        |
| 17:30-17:45  | A   | 1151.67                           | 1168.83                             |                                  |                                        |
| 17:30-17:45  | B   | 14.31                             | 14.31                               |                                  |                                        |
| 17:30-17:45  | C   | 1085.61                           | 1112.39                             |                                  |                                        |
| 17:45-18:00  | A   | 940.33                            | 954.34                              |                                  |                                        |
| 17:45-18:00  | B   | 11.69                             | 11.69                               |                                  |                                        |
| 17:45-18:00  | C   | 886.39                            | 908.26                              |                                  |                                        |
| 18:00-18:15  | A   | 787.48                            | 799.22                              |                                  |                                        |
| 18:00-18:15  | B   | 9.79                              | 9.79                                |                                  |                                        |
| 18:00-18:15  | C   | 742.31                            | 760.63                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 6 (for whole period)

| From | To |         |        |          |
|------|----|---------|--------|----------|
|      |    | A       | B      | C        |
|      | A  | 0.000   | 7.000  | 1039.000 |
|      | B  | 5.000   | 0.000  | 8.000    |
|      | C  | 973.000 | 13.000 | 0.000    |

## Turning Proportions (Veh) - Junction 6 (for whole period)

| From | To |      |      |      |
|------|----|------|------|------|
|      |    | A    | B    | C    |
|      | A  | 0.00 | 0.01 | 0.99 |
|      | B  | 0.38 | 0.00 | 0.62 |
|      | C  | 0.99 | 0.01 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 6 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | A     | B     | C     |
| From | A  | 1.000 | 1.000 | 1.015 |
|      | B  | 1.000 | 1.000 | 1.000 |
|      | C  | 1.025 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 6 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | A   | B   | C   |
| From | A  | 0.0 | 0.0 | 1.5 |
|      | B  | 0.0 | 0.0 | 0.0 |
|      | C  | 2.5 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| B-C    | 0.02    | 7.83          | 0.02            | A       | 7.34                    | 11.01                         | 1.29                           | 7.03                       | 0.01                                 | 1.29                                     | 7.03                                 |
| B-A    | 0.04    | 25.67         | 0.04            | D       | 4.59                    | 6.88                          | 2.02                           | 17.58                      | 0.02                                 | 2.02                                     | 17.58                                |
| C-AB   | 0.03    | 8.15          | 0.03            | A       | 11.93                   | 17.89                         | 2.20                           | 7.37                       | 0.02                                 | 2.20                                     | 7.37                                 |
| C-A    | -       | -             | -               | -       | 892.84                  | 1339.26                       | -                              | -                          | -                                    | -                                        | -                                    |
| A-B    | -       | -             | -               | -       | 6.42                    | 9.64                          | -                              | -                          | -                                    | -                                        | -                                    |
| A-C    | -       | -             | -               | -       | 953.40                  | 1430.11                       | -                              | -                          | -                                    | -                                        | -                                    |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 5.98                | 0.00                       | 577.86            | 0.010 | 0.00              | 0.01            | 6.294     | A   |
| B-A    | 3.76                  | 0.94                    | 3.72                | 0.00                       | 326.23            | 0.012 | 0.00              | 0.01            | 11.161    | B   |
| C-AB   | 9.79                  | 2.45                    | 9.72                | 0.00                       | 559.24            | 0.018 | 0.00              | 0.02            | 6.551     | A   |
| C-A    | 732.53                | 183.13                  | 732.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 782.21                | 195.55                  | 782.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:00-17:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.18                | 0.00                       | 532.37            | 0.014 | 0.01              | 0.01            | 6.853     | A   |
| B-A    | 4.49                  | 1.12                    | 4.47                | 0.00                       | 250.46            | 0.018 | 0.01              | 0.02            | 14.632    | B   |
| C-AB   | 11.69                 | 2.92                    | 11.67               | 0.00                       | 515.83            | 0.023 | 0.02              | 0.02            | 7.139     | A   |
| C-A    | 874.71                | 218.68                  | 874.71              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 934.04                | 233.51                  | 934.04              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:15-17:30)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.79                | 0.00                       | 468.42            | 0.019 | 0.01              | 0.02            | 7.832     | A   |
| B-A    | 5.51                  | 1.38                    | 5.42                | 0.00                       | 145.73            | 0.038 | 0.02              | 0.04            | 25.644    | D   |
| C-AB   | 14.31                 | 3.58                    | 14.28               | 0.00                       | 455.81            | 0.031 | 0.02              | 0.03            | 8.153     | A   |
| C-A    | 1071.29               | 267.82                  | 1071.29             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1143.96               | 285.99                  | 1143.96             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:30-17:45)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 8.81                  | 2.20                    | 8.81                | 0.00                       | 468.35            | 0.019 | 0.02              | 0.02            | 7.833     | A   |
| B-A    | 5.51                  | 1.38                    | 5.50                | 0.00                       | 145.72            | 0.038 | 0.04              | 0.04            | 25.674    | D   |
| C-AB   | 14.31                 | 3.58                    | 14.31               | 0.00                       | 455.81            | 0.031 | 0.03              | 0.03            | 8.153     | A   |
| C-A    | 1071.29               | 267.82                  | 1071.29             | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 7.71                  | 1.93                    | 7.71                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 1143.96               | 285.99                  | 1143.96             | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (17:45-18:00)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 7.19                  | 1.80                    | 7.21                | 0.00                       | 532.32            | 0.014 | 0.02              | 0.01            | 6.857     | A   |
| B-A    | 4.49                  | 1.12                    | 4.58                | 0.00                       | 250.44            | 0.018 | 0.04              | 0.02            | 14.649    | B   |
| C-AB   | 11.69                 | 2.92                    | 11.72               | 0.00                       | 515.83            | 0.023 | 0.03              | 0.02            | 7.140     | A   |
| C-A    | 874.71                | 218.68                  | 874.71              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 6.29                  | 1.57                    | 6.29                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 934.04                | 233.51                  | 934.04              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

### Main results: (18:00-18:15)

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|--------|-----------------------|-------------------------|---------------------|----------------------------|-------------------|-------|-------------------|-----------------|-----------|-----|
| B-C    | 6.02                  | 1.51                    | 6.04                | 0.00                       | 577.83            | 0.010 | 0.01              | 0.01            | 6.295     | A   |
| B-A    | 3.76                  | 0.94                    | 3.79                | 0.00                       | 326.19            | 0.012 | 0.02              | 0.01            | 11.166    | B   |
| C-AB   | 9.79                  | 2.45                    | 9.81                | 0.00                       | 559.24            | 0.018 | 0.02              | 0.02            | 6.554     | A   |
| C-A    | 732.53                | 183.13                  | 732.53              | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-B    | 5.27                  | 1.32                    | 5.27                | 0.00                       | -                 | -     | -                 | -               | -         | -   |
| A-C    | 782.21                | 195.55                  | 782.21              | 0.00                       | -                 | -     | -                 | -               | -         | -   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.15                           | 0.01                                 | 6.294                                  | A                             | A                           |
| B-A    | 0.17                           | 0.01                                 | 11.161                                 | B                             | B                           |
| C-AB   | 0.26                           | 0.02                                 | 6.551                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:00-17:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.20                           | 0.01                                 | 6.853                                  | A                             | A                           |
| B-A    | 0.26                           | 0.02                                 | 14.632                                 | B                             | B                           |
| C-AB   | 0.35                           | 0.02                                 | 7.139                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:15-17:30)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.28                           | 0.02                                 | 7.832                                  | A                             | A                           |
| B-A    | 0.54                           | 0.04                                 | 25.644                                 | D                             | C                           |
| C-AB   | 0.48                           | 0.03                                 | 8.153                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:30-17:45)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.29                           | 0.02                                 | 7.833                                  | A                             | A                           |
| B-A    | 0.58                           | 0.04                                 | 25.674                                 | D                             | C                           |
| C-AB   | 0.49                           | 0.03                                 | 8.153                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (17:45-18:00)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.21                           | 0.01                                 | 6.857                                  | A                             | A                           |
| B-A    | 0.29                           | 0.02                                 | 14.649                                 | B                             | B                           |
| C-AB   | 0.35                           | 0.02                                 | 7.140                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |

### Queueing Delay results: (18:00-18:15)

| Stream | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|--------|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| B-C    | 0.16                           | 0.01                                 | 6.295                                  | A                             | A                           |
| B-A    | 0.18                           | 0.01                                 | 11.166                                 | B                             | B                           |
| C-AB   | 0.27                           | 0.02                                 | 6.554                                  | A                             | A                           |
| C-A    | -                              | -                                    | -                                      | -                             | -                           |
| A-B    | -                              | -                                    | -                                      | -                             | -                           |
| A-C    | -                              | -                                    | -                                      | -                             | -                           |



# **East Anglia TWO Offshore Windfarm**

Junction 7

# Junction 7 - A12 / A1152 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | A1152     |
| -    | B   | A12       |
| -    | C   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

### Vehicles

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 701  | 152 | 853    |
| B       | 732 | 95   | 580 | 1407   |
| C       | 139 | 1001 | 0   | 1140   |
| Totals  | 871 | 1797 | 732 | 3400   |

### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 18 | 5  | 23     |
| B       | 23 | 5  | 49 | 77     |
| C       | 5  | 28 | 0  | 33     |
| Totals  | 28 | 51 | 54 | 133    |

### Total

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 719  | 157 | 876    |
| B       | 755 | 100  | 629 | 1484   |
| C       | 144 | 1029 | 0   | 1173   |
| Totals  | 899 | 1848 | 786 | 3533   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 2.5% | 3.2% | 2%      |
| B       | 3.0% | 5.0% | 7.8% | 5%      |
| C       | 3.5% | 2.7% | 0.0% | 2%      |
| Average | 2%   | 3%   | 4%   | 3%      |

**PM Peak Traffic**  
Wednesday 5th June 2019: 4:30PM - 5:30PM

### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 740  | 181  | 921    |
| B       | 687 | 90   | 1000 | 1777   |
| C       | 89  | 833  | 0    | 922    |
| Totals  | 776 | 1663 | 1181 | 3620   |

### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 14 | 2  | 16     |
| B       | 15 | 3  | 19 | 37     |
| C       | 0  | 25 | 0  | 25     |
| Totals  | 15 | 42 | 21 | 78     |

### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 754  | 183  | 937    |
| B       | 702 | 93   | 1019 | 1814   |
| C       | 89  | 858  | 0    | 947    |
| Totals  | 791 | 1705 | 1202 | 3698   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.9% | 1.1% | 1%      |
| B       | 2.1% | 3.2% | 1.9% | 2%      |
| C       | 0.0% | 2.9% | 0.0% | 1%      |
| Average | 1%   | 3%   | 1%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 742  | 161 | 902    |
| B       | 774 | 100  | 614 | 1488   |
| C       | 147 | 1059 | 0   | 1206   |
| Totals  | 921 | 1901 | 774 | 3597   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 19 | 5  | 24     |
| B       | 24 | 5  | 52 | 81     |
| C       | 5  | 30 | 0  | 35     |
| Totals  | 30 | 54 | 57 | 141    |

### Growth Factored Total

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 761  | 166 | 927    |
| B       | 799 | 106  | 665 | 1570   |
| C       | 152 | 1088 | 0   | 1241   |
| Totals  | 951 | 1955 | 831 | 3737   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 2.5% | 3.2% | 2%      |
| B       | 3.0% | 5.0% | 7.8% | 5%      |
| C       | 3.5% | 2.7% | 0.0% | 2%      |
| Average | 2%   | 3%   | 4%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 784  | 192  | 975    |
| B       | 727 | 95   | 1059 | 1881   |
| C       | 94  | 882  | 0    | 976    |
| Totals  | 822 | 1761 | 1250 | 3833   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 15 | 2  | 17     |
| B       | 16 | 3  | 20 | 39     |
| C       | 0  | 26 | 0  | 26     |
| Totals  | 16 | 44 | 22 | 83     |

### Growth Factored Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 798  | 194  | 992    |
| B       | 743 | 98   | 1079 | 1921   |
| C       | 94  | 908  | 0    | 1003   |
| Totals  | 838 | 1805 | 1273 | 3915   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.9% | 1.1% | 1%      |
| B       | 2.1% | 3.2% | 1.9% | 2%      |
| C       | 0.0% | 2.9% | 0.0% | 1%      |
| Average | 1%   | 3%   | 1%   | 1%      |

**Junction 7 - A12 / A1152 Junction**



**Notes**

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | A1152     |
| -    | B   | A12       |
| -    | C   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 49 | 49     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 49 | 49     |

**HGVs**

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 11 | 11     |
| C       | 0 | 11 | 0  | 11     |
| Totals  | 0 | 11 | 11 | 21     |

**Total**

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 59 | 59     |
| C       | 0 | 11 | 0  | 11     |
| Totals  | 0 | 11 | 59 | 70     |

**%HGV**

| From/To | A    | B      | C     | Average |
|---------|------|--------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 17.8% | 6%      |
| C       | 0.0% | 100.0% | 0.0%  | 33%     |
| Average | 0%   | 33%    | 6%    | 13%     |

**PM Peak Traffic**

**Vehicles**

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 0  | 0 | 0      |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 49 | 0 | 49     |
| Totals  | 0 | 49 | 0 | 49     |

**HGVs**

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 11 | 11     |
| C       | 0 | 11 | 0  | 11     |
| Totals  | 0 | 11 | 11 | 21     |

**Total**

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 11 | 11     |
| C       | 0 | 59 | 0  | 59     |
| Totals  | 0 | 59 | 11 | 70     |

**%HGV**

| From/To | A    | B     | C      | Average |
|---------|------|-------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 100.0% | 33%     |
| C       | 0.0% | 17.8% | 0.0%   | 6%      |
| Average | 0%   | 6%    | 33%    | 13%     |

**Forecast Flows + EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 742  | 161 | 902    |
| B       | 774 | 100  | 662 | 1537   |
| C       | 147 | 1059 | 0   | 1206   |
| Totals  | 921 | 1901 | 823 | 3645   |

**HGVs**

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 19 | 5  | 24     |
| B       | 24 | 5  | 62 | 92     |
| C       | 5  | 40 | 0  | 45     |
| Totals  | 30 | 64 | 68 | 162    |

**Total**

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 761  | 166 | 927    |
| B       | 799 | 106  | 724 | 1629   |
| C       | 152 | 1099 | 0   | 1251   |
| Totals  | 951 | 1965 | 891 | 3807   |

**%HGV**

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 2.5% | 3.2% | 2%      |
| B       | 3.0% | 5.0% | 8.6% | 6%      |
| C       | 3.5% | 3.7% | 0.0% | 2%      |
| Average | 2%   | 4%   | 4%   | 3%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 784  | 192  | 975    |
| B       | 727 | 95   | 1059 | 1881   |
| C       | 94  | 931  | 0    | 1025   |
| Totals  | 822 | 1809 | 1250 | 3881   |

**HGVs**

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 15 | 2  | 17     |
| B       | 16 | 3  | 31 | 50     |
| C       | 0  | 37 | 0  | 37     |
| Totals  | 16 | 55 | 33 | 104    |

**Total**

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 798  | 194  | 992    |
| B       | 743 | 98   | 1089 | 1931   |
| C       | 94  | 968  | 0    | 1062   |
| Totals  | 838 | 1864 | 1283 | 3985   |

**%HGV**

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.9% | 1.1% | 1%      |
| B       | 2.1% | 3.2% | 2.8% | 3%      |
| C       | 0.0% | 3.8% | 0.0% | 1%      |
| Average | 1%   | 3%   | 1%   | 2%      |

# Junction 7 - A12 / A1152 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | A1152     |
| -    | B   | A12       |
| -    | C   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

### Vehicles

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 701  | 152 | 853    |
| B       | 732 | 95   | 580 | 1407   |
| C       | 139 | 1001 | 0   | 1140   |
| Totals  | 871 | 1797 | 732 | 3400   |

### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 18 | 5  | 23     |
| B       | 23 | 5  | 49 | 77     |
| C       | 5  | 28 | 0  | 33     |
| Totals  | 28 | 51 | 54 | 133    |

### Total

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 719  | 157 | 876    |
| B       | 755 | 100  | 629 | 1484   |
| C       | 144 | 1029 | 0   | 1173   |
| Totals  | 899 | 1848 | 786 | 3533   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 2.5% | 3.2% | 2%      |
| B       | 3.0% | 5.0% | 7.8% | 5%      |
| C       | 3.5% | 2.7% | 0.0% | 2%      |
| Average | 2%   | 3%   | 4%   | 3%      |

**PM Peak Traffic**  
Wednesday 5th June 2019: 4:30PM - 5:30PM

### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 740  | 181  | 921    |
| B       | 687 | 90   | 1000 | 1777   |
| C       | 89  | 833  | 0    | 922    |
| Totals  | 776 | 1663 | 1181 | 3620   |

### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 14 | 2  | 16     |
| B       | 15 | 3  | 19 | 37     |
| C       | 0  | 25 | 0  | 25     |
| Totals  | 15 | 42 | 21 | 78     |

### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 754  | 183  | 937    |
| B       | 702 | 93   | 1019 | 1814   |
| C       | 89  | 858  | 0    | 947    |
| Totals  | 791 | 1705 | 1202 | 3698   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.9% | 1.1% | 1%      |
| B       | 2.1% | 3.2% | 1.9% | 2%      |
| C       | 0.0% | 2.9% | 0.0% | 1%      |
| Average | 1%   | 3%   | 1%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 742  | 161 | 902    |
| B       | 774 | 100  | 614 | 1488   |
| C       | 147 | 1059 | 0   | 1206   |
| Totals  | 921 | 1901 | 774 | 3597   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 19 | 5  | 24     |
| B       | 24 | 5  | 52 | 81     |
| C       | 5  | 30 | 0  | 35     |
| Totals  | 30 | 54 | 57 | 141    |

### Growth Factored Total

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 761  | 166 | 927    |
| B       | 799 | 106  | 665 | 1570   |
| C       | 152 | 1088 | 0   | 1241   |
| Totals  | 951 | 1955 | 831 | 3737   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 2.5% | 3.2% | 2%      |
| B       | 3.0% | 5.0% | 7.8% | 5%      |
| C       | 3.5% | 2.7% | 0.0% | 2%      |
| Average | 2%   | 3%   | 4%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 784  | 192  | 975    |
| B       | 727 | 95   | 1059 | 1881   |
| C       | 94  | 882  | 0    | 976    |
| Totals  | 822 | 1761 | 1250 | 3833   |

### Growth Factored HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 15 | 2  | 17     |
| B       | 16 | 3  | 20 | 39     |
| C       | 0  | 26 | 0  | 26     |
| Totals  | 16 | 44 | 22 | 83     |

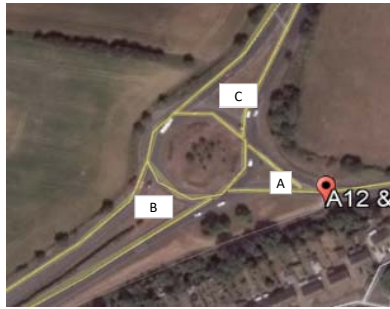
### Growth Factored Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 798  | 194  | 992    |
| B       | 743 | 98   | 1079 | 1921   |
| C       | 94  | 908  | 0    | 1003   |
| Totals  | 838 | 1805 | 1273 | 3915   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.9% | 1.1% | 1%      |
| B       | 2.1% | 3.2% | 1.9% | 2%      |
| C       | 0.0% | 2.9% | 0.0% | 1%      |
| Average | 1%   | 3%   | 1%   | 1%      |

**Junction 7 - A12 / A1152 Junction**



**Notes**

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | A1152     |
| -    | B   | A12       |
| -    | C   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 60 | 60     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 60 | 60     |

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 14 | 14     |
| C       | 0 | 14 | 0  | 14     |
| Totals  | 0 | 14 | 14 | 27     |

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 74 | 74     |
| C       | 0 | 14 | 0  | 14     |
| Totals  | 0 | 14 | 74 | 87     |

| From/To | A    | B      | C     | Average |
|---------|------|--------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 18.3% | 6%      |
| C       | 0.0% | 100.0% | 0.0%  | 33%     |
| Average | 0%   | 33%    | 6%    | 13%     |

**PM Peak Traffic**

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 0  | 0 | 0      |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 60 | 0 | 60     |
| Totals  | 0 | 60 | 0 | 60     |

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 14 | 14     |
| C       | 0 | 14 | 0  | 14     |
| Totals  | 0 | 14 | 14 | 27     |

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 14 | 14     |
| C       | 0 | 74 | 0  | 74     |
| Totals  | 0 | 74 | 14 | 87     |

| From/To | A    | B     | C      | Average |
|---------|------|-------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 100.0% | 33%     |
| C       | 0.0% | 18.3% | 0.0%   | 6%      |
| Average | 0%   | 6%    | 33%    | 13%     |

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 742  | 161 | 902    |
| B       | 774 | 100  | 674 | 1549   |
| C       | 147 | 1059 | 0   | 1206   |
| Totals  | 921 | 1901 | 835 | 3657   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 19 | 5  | 24     |
| B       | 24 | 5  | 65 | 95     |
| C       | 5  | 43 | 0  | 48     |
| Totals  | 30 | 67 | 71 | 168    |

| From/To | A   | B    | C   | Totals |
|---------|-----|------|-----|--------|
| A       | 0   | 761  | 166 | 927    |
| B       | 799 | 106  | 739 | 1644   |
| C       | 152 | 1102 | 0   | 1254   |
| Totals  | 951 | 1968 | 905 | 3824   |

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 2.5% | 3.2% | 2%      |
| B       | 3.0% | 5.0% | 8.8% | 6%      |
| C       | 3.5% | 3.9% | 0.0% | 2%      |
| Average | 2%   | 4%   | 4%   | 3%      |

**PM Peak Traffic**

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 784  | 192  | 975    |
| B       | 727 | 95   | 1059 | 1881   |
| C       | 94  | 942  | 0    | 1036   |
| Totals  | 822 | 1821 | 1250 | 3893   |

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 15 | 2  | 17     |
| B       | 16 | 3  | 34 | 53     |
| C       | 0  | 40 | 0  | 40     |
| Totals  | 16 | 58 | 36 | 110    |

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 798  | 194  | 992    |
| B       | 743 | 98   | 1092 | 1934   |
| C       | 94  | 982  | 0    | 1076   |
| Totals  | 838 | 1879 | 1286 | 4003   |

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 1.9% | 1.1% | 1%      |
| B       | 2.1% | 3.2% | 3.1% | 3%      |
| C       | 0.0% | 4.1% | 0.0% | 1%      |
| Average | 1%   | 3%   | 1%   | 2%      |

| Junctions 8                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ARCADY 8 - Roundabout Module                                                                                                                                                |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |

**Filename:** Junction 7 - A12 and Woods Lane.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 16:01:40

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - » Existing Layout - Background 2019, AM
  - » Existing Layout - Background 2019, PM

## Summary of junction performance

|                                                                      | AM          |           |      |     | PM          |           |      |     |
|----------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| Existing Layout - Background 2019                                    |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 2.64        | 10.03     | 0.73 | B   | 2.39        | 8.46      | 0.71 | A   |
| Arm 2                                                                | 2.81        | 6.27      | 0.74 | A   | 7.19        | 13.49     | 0.88 | B   |
| Arm 3                                                                | 2.51        | 7.09      | 0.72 | A   | 1.28        | 4.45      | 0.56 | A   |
| Existing Layout - Forecast Background + EA2 + EA1N Construction 2023 |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 4.08        | 14.89     | 0.81 | B   | 3.93        | 13.34     | 0.80 | B   |
| Arm 2                                                                | 4.63        | 9.45      | 0.83 | A   | 15.17       | 27.31     | 0.95 | D   |
| Arm 3                                                                | 3.70        | 9.86      | 0.79 | A   | 1.90        | 5.84      | 0.66 | A   |
| Existing Layout - Forecast Background + EA2 Construction 2023        |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 4.02        | 14.68     | 0.81 | B   | 3.77        | 12.80     | 0.80 | B   |
| Arm 2                                                                | 4.38        | 9.00      | 0.82 | A   | 14.55       | 26.25     | 0.95 | D   |
| Arm 3                                                                | 3.63        | 9.70      | 0.79 | A   | 1.82        | 5.65      | 0.65 | A   |
| Existing Layout - Forecast Background 2023                           |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 3.81        | 13.87     | 0.80 | B   | 3.26        | 10.98     | 0.77 | B   |
| Arm 2                                                                | 3.59        | 7.60      | 0.79 | A   | 12.83       | 23.26     | 0.94 | C   |
| Arm 3                                                                | 3.36        | 9.05      | 0.77 | A   | 1.53        | 5.02      | 0.61 | A   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA2 Construction 2023, AM" model duration: 08:00 - 09:30

"D4 - Forecast Background + EA2 Construction 2023, PM" model duration: 16:45 - 18:15

"D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Background 2019, AM" model duration: 08:00 - 09:30

"D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:01:35

## File summary

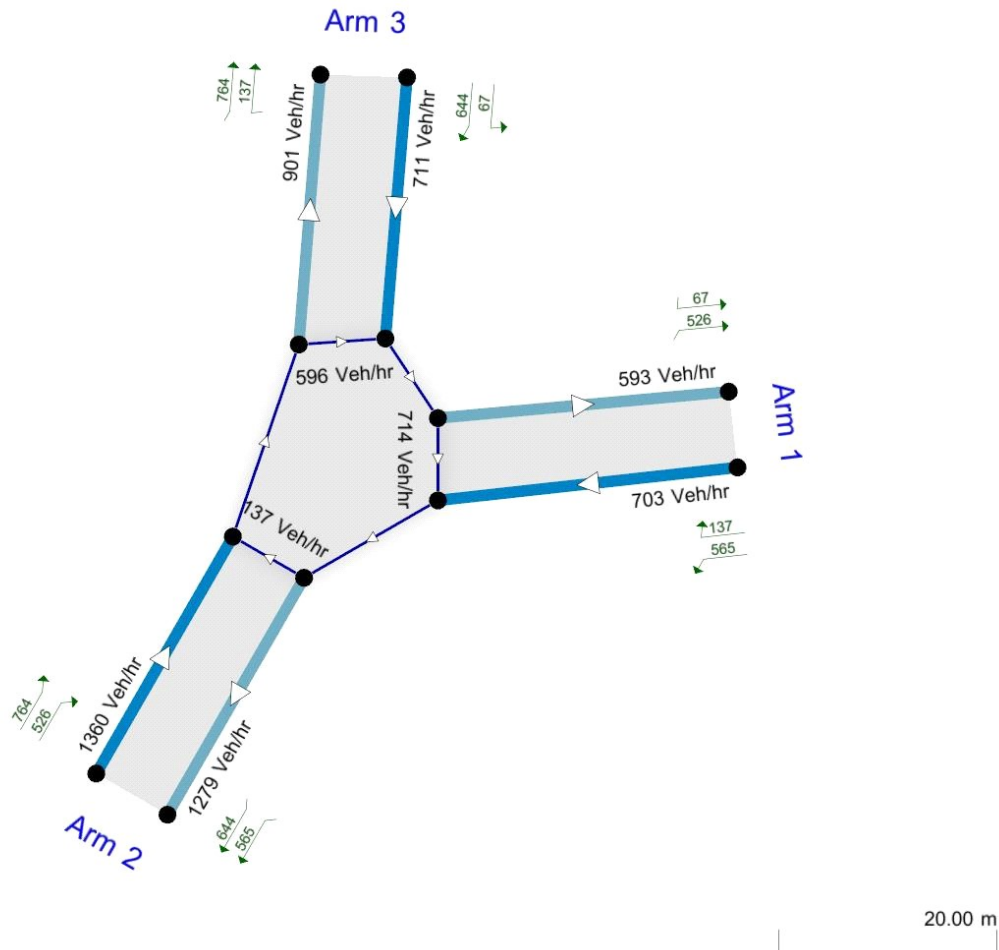
|             |                                               |
|-------------|-----------------------------------------------|
| Title       | East Anglia TWO Offshore Windfarm             |
| Location    | Roundabout junction of the A12 and Woods Lane |
| Site Number | J7                                            |
| Date        | 25/06/2019                                    |
| Version     | D0.1                                          |
| Status      | Existing Layout                               |
| Identifier  |                                               |
| Client      | Scottish Power                                |
| Jobnumber   | PB4842                                        |
| Enumerator  | 304111                                        |
| Description |                                               |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Time Segment: (16:45-17:00)  
Showing Analysis Set "A1 - Existing Layout ", Demand Set "D1 - Forecast Background 2023, AM "

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |



## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 9.61               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 927.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1570.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1240.00                      | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 697.89                            | 716.22                              |                                  |                                        |
| 08:00-08:15  | 2   | 1181.98                           | 1243.06                             |                                  |                                        |
| 08:00-08:15  | 3   | 933.54                            | 959.66                              |                                  |                                        |
| 08:15-08:30  | 1   | 833.35                            | 855.23                              |                                  |                                        |
| 08:15-08:30  | 2   | 1411.40                           | 1484.34                             |                                  |                                        |
| 08:15-08:30  | 3   | 1114.73                           | 1145.93                             |                                  |                                        |
| 08:30-08:45  | 1   | 1020.65                           | 1047.44                             |                                  |                                        |
| 08:30-08:45  | 2   | 1728.60                           | 1817.94                             |                                  |                                        |
| 08:30-08:45  | 3   | 1365.27                           | 1403.47                             |                                  |                                        |
| 08:45-09:00  | 1   | 1020.65                           | 1047.44                             |                                  |                                        |
| 08:45-09:00  | 2   | 1728.60                           | 1817.94                             |                                  |                                        |
| 08:45-09:00  | 3   | 1365.27                           | 1403.47                             |                                  |                                        |
| 09:00-09:15  | 1   | 833.35                            | 855.23                              |                                  |                                        |
| 09:00-09:15  | 2   | 1411.40                           | 1484.34                             |                                  |                                        |
| 09:00-09:15  | 3   | 1114.73                           | 1145.93                             |                                  |                                        |
| 09:15-09:30  | 1   | 697.89                            | 716.22                              |                                  |                                        |
| 09:15-09:30  | 2   | 1181.98                           | 1243.06                             |                                  |                                        |
| 09:15-09:30  | 3   | 933.54                            | 959.66                              |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      | To |         |          |         |
|------|----|---------|----------|---------|
|      |    | 1       | 2        | 3       |
| From | 1  | 0.000   | 761.000  | 166.000 |
|      | 2  | 799.000 | 106.000  | 665.000 |
|      | 3  | 152.000 | 1088.000 | 0.000   |

### Turning Proportions (Veh) - Junction 7 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.82 | 0.18 |
|      | 2  | 0.51 | 0.07 | 0.42 |
|      | 3  | 0.12 | 0.88 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.025 | 1.032 |
|      | 2  | 1.030 | 1.050 | 1.078 |
|      | 3  | 1.035 | 1.027 | 1.000 |

## Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 2.5 | 3.2 |
|      | 2  | 3.0 | 5.0 | 7.8 |
|      | 3  | 3.5 | 2.7 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.80    | 13.87         | 3.81            | B       | 850.63                  | 1275.95                       | 173.14                         | 8.14                       | 1.92                                 | 173.16                                   | 8.14                                 |
| 2   | 0.79    | 7.60          | 3.59            | A       | 1440.66                 | 2160.99                       | 188.73                         | 5.24                       | 2.10                                 | 188.74                                   | 5.24                                 |
| 3   | 0.77    | 9.05          | 3.36            | A       | 1137.85                 | 1706.77                       | 166.23                         | 5.84                       | 1.85                                 | 166.24                                   | 5.84                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 697.90                | 174.47                  | 694.60              | 713.26             | 895.48                    | 0.00                       | 1538.04           | 1139.15                      | 0.454 | 0.00              | 0.82            | 4.252     | A   |
| 2   | 1181.98               | 295.50                  | 1177.54             | 1465.70            | 124.38                    | 0.00                       | 2237.88           | 2187.61                      | 0.528 | 0.00              | 1.11            | 3.381     | A   |
| 3   | 933.54                | 233.38                  | 929.98              | 623.15             | 678.77                    | 0.00                       | 1974.87           | 1584.45                      | 0.473 | 0.00              | 0.89            | 3.434     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 833.36                | 208.34                  | 831.14              | 853.43             | 1071.33                   | 0.00                       | 1428.90           | 1139.15                      | 0.583 | 0.82              | 1.38            | 5.999     | A   |
| 2   | 1411.40               | 352.85                  | 1408.97             | 1753.63            | 148.83                    | 0.00                       | 2222.44           | 2187.61                      | 0.635 | 1.11              | 1.72            | 4.412     | A   |
| 3   | 1114.74               | 278.68                  | 1112.58             | 745.63             | 812.18                    | 0.00                       | 1885.42           | 1584.45                      | 0.591 | 0.89              | 1.43            | 4.645     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1020.65               | 255.16                  | 1011.57             | 1042.49            | 1307.64                   | 0.00                       | 1282.23           | 1139.15                      | 0.796 | 1.38              | 3.65            | 12.890    | B   |
| 2   | 1728.60               | 432.15                  | 1721.40             | 2138.06            | 181.14                    | 0.00                       | 2202.03           | 2187.61                      | 0.785 | 1.72              | 3.52            | 7.380     | A   |
| 3   | 1365.27               | 341.32                  | 1357.86             | 910.27             | 992.27                    | 0.00                       | 1764.65           | 1584.45                      | 0.774 | 1.43              | 3.28            | 8.694     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1020.65               | 255.16                  | 1020.00             | 1046.89            | 1314.31                   | 0.00                       | 1278.09           | 1139.15                      | 0.799 | 3.65              | 3.81            | 13.865    | B   |
| 2   | 1728.60               | 432.15                  | 1728.33             | 2151.65            | 182.65                    | 0.00                       | 2201.08           | 2187.61                      | 0.785 | 3.52              | 3.59            | 7.603     | A   |
| 3   | 1365.27               | 341.32                  | 1364.94             | 914.72             | 996.27                    | 0.00                       | 1761.97           | 1584.45                      | 0.775 | 3.28              | 3.36            | 9.047     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 833.36                | 208.34                  | 842.85              | 859.56             | 1080.51                   | 0.00                       | 1423.20           | 1139.15                      | 0.586 | 3.81              | 1.44            | 6.300     | A   |
| 2   | 1411.40               | 352.85                  | 1418.69             | 1772.43            | 150.93                    | 0.00                       | 2221.11           | 2187.61                      | 0.635 | 3.59              | 1.77            | 4.525     | A   |
| 3   | 1114.74               | 278.68                  | 1122.30             | 751.84             | 817.78                    | 0.00                       | 1881.66           | 1584.45                      | 0.592 | 3.36              | 1.47            | 4.786     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 697.90                | 174.47                  | 700.27              | 717.54             | 901.07                    | 0.00                       | 1534.57           | 1139.15                      | 0.455 | 1.44              | 0.84            | 4.326     | A   |
| 2   | 1181.98               | 295.50                  | 1184.53             | 1475.93            | 125.40                    | 0.00                       | 2237.24           | 2187.61                      | 0.528 | 1.77              | 1.13            | 3.427     | A   |
| 3   | 933.54                | 233.38                  | 935.80              | 627.13             | 682.80                    | 0.00                       | 1972.17           | 1584.45                      | 0.473 | 1.47              | 0.91            | 3.480     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 11.97                          | 0.80                                 | 4.252                                  | A                             | A                           |
| 2   | 16.17                          | 1.08                                 | 3.381                                  | A                             | A                           |
| 3   | 12.99                          | 0.87                                 | 3.434                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 19.90                          | 1.33                                 | 5.999                                  | A                             | A                           |
| 2   | 24.94                          | 1.66                                 | 4.412                                  | A                             | A                           |
| 3   | 20.76                          | 1.38                                 | 4.645                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 49.18                          | 3.28                                 | 12.890                                 | B                             | B                           |
| 2   | 49.22                          | 3.28                                 | 7.380                                  | A                             | A                           |
| 3   | 45.52                          | 3.03                                 | 8.694                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 56.21                          | 3.75                                 | 13.865                                 | B                             | B                           |
| 2   | 53.42                          | 3.56                                 | 7.603                                  | A                             | A                           |
| 3   | 49.97                          | 3.33                                 | 9.047                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 22.90                          | 1.53                                 | 6.300                                  | A                             | A                           |
| 2   | 27.60                          | 1.84                                 | 4.525                                  | A                             | A                           |
| 3   | 23.08                          | 1.54                                 | 4.786                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.98                          | 0.87                                 | 4.326                                  | A                             | A                           |
| 2   | 17.37                          | 1.16                                 | 3.427                                  | A                             | A                           |
| 3   | 13.91                          | 0.93                                 | 3.480                                  | A                             | A                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 15.47              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 992.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1920.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1002.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 746.83                            | 759.85                              |                                  |                                        |
| 16:45-17:00  | 2   | 1445.48                           | 1475.02                             |                                  |                                        |
| 16:45-17:00  | 3   | 754.36                            | 774.18                              |                                  |                                        |
| 17:00-17:15  | 1   | 891.79                            | 907.34                              |                                  |                                        |
| 17:00-17:15  | 2   | 1726.04                           | 1761.32                             |                                  |                                        |
| 17:00-17:15  | 3   | 900.78                            | 924.45                              |                                  |                                        |
| 17:15-17:30  | 1   | 1092.21                           | 1111.26                             |                                  |                                        |
| 17:15-17:30  | 2   | 2113.96                           | 2157.16                             |                                  |                                        |
| 17:15-17:30  | 3   | 1103.22                           | 1132.21                             |                                  |                                        |
| 17:30-17:45  | 1   | 1092.21                           | 1111.26                             |                                  |                                        |
| 17:30-17:45  | 2   | 2113.96                           | 2157.16                             |                                  |                                        |
| 17:30-17:45  | 3   | 1103.22                           | 1132.21                             |                                  |                                        |
| 17:45-18:00  | 1   | 891.79                            | 907.34                              |                                  |                                        |
| 17:45-18:00  | 2   | 1726.04                           | 1761.32                             |                                  |                                        |
| 17:45-18:00  | 3   | 900.78                            | 924.45                              |                                  |                                        |
| 18:00-18:15  | 1   | 746.83                            | 759.85                              |                                  |                                        |
| 18:00-18:15  | 2   | 1445.48                           | 1475.02                             |                                  |                                        |
| 18:00-18:15  | 3   | 754.36                            | 774.18                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      |   | To      |         |          |
|------|---|---------|---------|----------|
| From |   | 1       | 2       | 3        |
|      | 1 | 0.000   | 798.000 | 194.000  |
|      | 2 | 743.000 | 98.000  | 1079.000 |
|      | 3 | 94.000  | 908.000 | 0.000    |

## Turning Proportions (Veh) - Junction 7 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | 1    | 2    | 3    |
|      | 1 | 0.00 | 0.80 | 0.20 |
|      | 2 | 0.39 | 0.05 | 0.56 |
|      | 3 | 0.09 | 0.91 | 0.00 |



# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.019 | 1.011 |
|      | 2  | 1.021 | 1.032 | 1.019 |
|      | 3  | 1.000 | 1.029 | 1.000 |

## Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 1.9 | 1.1 |
|      | 2  | 2.1 | 3.2 | 1.9 |
|      | 3  | 0.0 | 2.9 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.77    | 10.98         | 3.26            | B       | 910.27                  | 1365.41                       | 158.36                         | 6.96                       | 1.76                                 | 158.37                                   | 6.96                                 |
| 2   | 0.94    | 23.26         | 12.83           | C       | 1761.82                 | 2642.73                       | 471.55                         | 10.71                      | 5.24                                 | 471.58                                   | 10.71                                |
| 3   | 0.61    | 5.02          | 1.53            | A       | 919.45                  | 1379.18                       | 88.90                          | 3.87                       | 0.99                                 | 88.90                                    | 3.87                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 746.83                | 186.71                  | 743.51              | 627.31             | 754.87                    | 0.00                       | 1639.27           | 1032.00                      | 0.456 | 0.00              | 0.83            | 4.005     | A   |
| 2   | 1445.47               | 361.37                  | 1438.75             | 1352.98            | 145.40                    | 0.00                       | 2294.63           | 2258.66                      | 0.630 | 0.00              | 1.68            | 4.174     | A   |
| 3   | 754.36                | 188.59                  | 751.98              | 953.95             | 630.20                    | 0.00                       | 2014.89           | 1776.02                      | 0.374 | 0.00              | 0.60            | 2.846     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 891.78                | 222.95                  | 889.73              | 750.23             | 903.11                    | 0.00                       | 1546.44           | 1032.01                      | 0.577 | 0.83              | 1.34            | 5.464     | A   |
| 2   | 1726.04               | 431.51                  | 1720.57             | 1618.85            | 174.00                    | 0.00                       | 2276.40           | 2258.66                      | 0.758 | 1.68              | 3.05            | 6.412     | A   |
| 3   | 900.78                | 225.19                  | 899.69              | 1140.93            | 753.65                    | 0.00                       | 1932.78           | 1776.02                      | 0.466 | 0.60              | 0.87            | 3.482     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1092.21               | 273.05                  | 1084.92             | 908.46             | 1103.63                   | 0.00                       | 1420.88           | 1032.06                      | 0.769 | 1.34              | 3.17            | 10.494    | B   |
| 2   | 2113.95               | 528.49                  | 2080.72             | 1976.37            | 212.17                    | 0.00                       | 2252.06           | 2258.65                      | 0.939 | 3.05              | 11.36           | 18.263    | C   |
| 3   | 1103.22               | 275.81                  | 1100.68             | 1381.50            | 911.40                    | 0.00                       | 1827.86           | 1776.02                      | 0.604 | 0.87              | 1.50            | 4.934     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1092.21               | 273.05                  | 1091.84             | 919.26             | 1107.24                   | 0.00                       | 1418.62           | 1032.06                      | 0.770 | 3.17              | 3.26            | 10.985    | B   |
| 2   | 2113.95               | 528.49                  | 2108.06             | 1985.56            | 213.53                    | 0.00                       | 2251.20           | 2258.65                      | 0.939 | 11.36             | 12.83           | 23.263    | C   |
| 3   | 1103.22               | 275.81                  | 1103.13             | 1398.21            | 923.38                    | 0.00                       | 1819.89           | 1776.02                      | 0.606 | 1.50              | 1.53            | 5.020     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 891.78                | 222.95                  | 899.25              | 767.53             | 908.63                    | 0.00                       | 1542.98           | 1032.01                      | 0.578 | 3.26              | 1.39            | 5.657     | A   |
| 2   | 1726.04               | 431.51                  | 1764.40             | 1632.03            | 175.86                    | 0.00                       | 2275.21           | 2258.66                      | 0.759 | 12.83             | 3.24            | 7.553     | A   |
| 3   | 900.78                | 225.19                  | 903.32              | 1167.43            | 772.85                    | 0.00                       | 1920.01           | 1776.02                      | 0.469 | 1.53              | 0.89            | 3.551     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 746.83                | 186.71                  | 749.00              | 632.59             | 758.72                    | 0.00                       | 1636.86           | 1032.00                      | 0.456 | 1.39              | 0.85            | 4.065     | A   |
| 2   | 1445.47               | 361.37                  | 1451.53             | 1361.24            | 146.48                    | 0.00                       | 2293.95           | 2258.66                      | 0.630 | 3.24              | 1.72            | 4.303     | A   |
| 3   | 754.36                | 188.59                  | 755.51              | 962.21             | 635.80                    | 0.00                       | 2011.16           | 1776.02                      | 0.375 | 0.89              | 0.60            | 2.871     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.08                          | 0.81                                 | 4.005                                  | A                             | A                           |
| 2   | 24.21                          | 1.61                                 | 4.174                                  | A                             | A                           |
| 3   | 8.74                           | 0.58                                 | 2.846                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 19.46                          | 1.30                                 | 5.464                                  | A                             | A                           |
| 2   | 43.19                          | 2.88                                 | 6.412                                  | A                             | A                           |
| 3   | 12.73                          | 0.85                                 | 3.482                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 43.56                          | 2.90                                 | 10.494                                 | B                             | B                           |
| 2   | 136.03                         | 9.07                                 | 18.263                                 | C                             | B                           |
| 3   | 21.75                          | 1.45                                 | 4.934                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 48.32                          | 3.22                                 | 10.985                                 | B                             | B                           |
| 2   | 183.14                         | 12.21                                | 23.263                                 | C                             | C                           |
| 3   | 22.76                          | 1.52                                 | 5.020                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 21.90                          | 1.46                                 | 5.657                                  | A                             | A                           |
| 2   | 58.11                          | 3.87                                 | 7.553                                  | A                             | A                           |
| 3   | 13.70                          | 0.91                                 | 3.551                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.03                          | 0.87                                 | 4.065                                  | A                             | A                           |
| 2   | 26.86                          | 1.79                                 | 4.303                                  | A                             | A                           |
| 3   | 9.21                           | 0.61                                 | 2.871                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, AM | Forecast Background + EA2 Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 10.59              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 927.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1629.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1251.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 697.89                            | 716.22                              |                                  |                                        |
| 08:00-08:15  | 2   | 1226.40                           | 1295.31                             |                                  |                                        |
| 08:00-08:15  | 3   | 941.82                            | 976.44                              |                                  |                                        |
| 08:15-08:30  | 1   | 833.35                            | 855.23                              |                                  |                                        |
| 08:15-08:30  | 2   | 1464.44                           | 1546.72                             |                                  |                                        |
| 08:15-08:30  | 3   | 1124.62                           | 1165.96                             |                                  |                                        |
| 08:30-08:45  | 1   | 1020.65                           | 1047.44                             |                                  |                                        |
| 08:30-08:45  | 2   | 1793.56                           | 1894.34                             |                                  |                                        |
| 08:30-08:45  | 3   | 1377.38                           | 1428.00                             |                                  |                                        |
| 08:45-09:00  | 1   | 1020.65                           | 1047.44                             |                                  |                                        |
| 08:45-09:00  | 2   | 1793.56                           | 1894.34                             |                                  |                                        |
| 08:45-09:00  | 3   | 1377.38                           | 1428.00                             |                                  |                                        |
| 09:00-09:15  | 1   | 833.35                            | 855.23                              |                                  |                                        |
| 09:00-09:15  | 2   | 1464.44                           | 1546.72                             |                                  |                                        |
| 09:00-09:15  | 3   | 1124.62                           | 1165.96                             |                                  |                                        |
| 09:15-09:30  | 1   | 697.89                            | 716.22                              |                                  |                                        |
| 09:15-09:30  | 2   | 1226.40                           | 1295.31                             |                                  |                                        |
| 09:15-09:30  | 3   | 941.82                            | 976.44                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      |   | To      |          |         |
|------|---|---------|----------|---------|
| From |   | 1       | 2        | 3       |
|      | 1 | 0.000   | 761.000  | 166.000 |
|      | 2 | 799.000 | 106.000  | 724.000 |
|      | 3 | 152.000 | 1099.000 | 0.000   |

### Turning Proportions (Veh) - Junction 7 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.82 | 0.18 |
|      | 2  | 0.49 | 0.07 | 0.44 |
|      | 3  | 0.12 | 0.88 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.025 | 1.032 |
|      | 2  | 1.030 | 1.050 | 1.086 |
|      | 3  | 1.035 | 1.037 | 1.000 |

### Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 2.5 | 3.2 |
|      | 2  | 3.0 | 5.0 | 8.6 |
|      | 3  | 3.5 | 3.7 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.81    | 14.68         | 4.02            | B       | 850.63                  | 1275.95                       | 179.66                         | 8.45                       | 2.00                                 | 179.68                                   | 8.45                                 |
| 2   | 0.82    | 9.00          | 4.38            | A       | 1494.80                 | 2242.20                       | 219.84                         | 5.88                       | 2.44                                 | 219.86                                   | 5.88                                 |
| 3   | 0.79    | 9.70          | 3.63            | A       | 1147.94                 | 1721.90                       | 176.07                         | 6.14                       | 1.96                                 | 176.09                                   | 6.14                                 |

### Main Results for each time segment

#### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 697.90                | 174.47                  | 694.56              | 713.13             | 903.64                    | 0.00                       | 1528.01           | 1122.56                      | 0.457 | 0.00              | 0.83            | 4.302     | A   |
| 2   | 1226.40               | 306.60                  | 1221.54             | 1473.82            | 124.38                    | 0.00                       | 2228.33           | 2180.13                      | 0.550 | 0.00              | 1.21            | 3.558     | A   |
| 3   | 941.82                | 235.45                  | 938.14              | 667.29             | 678.64                    | 0.00                       | 1958.24           | 1604.16                      | 0.481 | 0.00              | 0.92            | 3.516     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 833.36                | 208.34                  | 831.07              | 853.25             | 1081.08                   | 0.00                       | 1416.91           | 1122.56                      | 0.588 | 0.83              | 1.41            | 6.120     | A   |
| 2   | 1464.44               | 366.11                  | 1461.58             | 1763.32            | 148.82                    | 0.00                       | 2212.95           | 2180.13                      | 0.662 | 1.21              | 1.93            | 4.773     | A   |
| 3   | 1124.62               | 281.16                  | 1122.34             | 798.42             | 811.99                    | 0.00                       | 1869.57           | 1604.16                      | 0.602 | 0.92              | 1.49            | 4.803     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1020.65               | 255.16                  | 1010.94             | 1041.48            | 1318.98                   | 0.00                       | 1267.95           | 1122.56                      | 0.805 | 1.41              | 3.83            | 13.526    | B   |
| 2   | 1793.56               | 448.39                  | 1784.18             | 2148.87            | 181.03                    | 0.00                       | 2192.70           | 2180.13                      | 0.818 | 1.93              | 4.27            | 8.619     | A   |
| 3   | 1377.37               | 344.34                  | 1369.24             | 974.00             | 991.21                    | 0.00                       | 1750.41           | 1604.16                      | 0.787 | 1.49              | 3.52            | 9.252     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1020.65               | 255.16                  | 1019.89             | 1046.80            | 1326.34                   | 0.00                       | 1263.34           | 1122.56                      | 0.808 | 3.83              | 4.02            | 14.679    | B   |
| 2   | 1793.56               | 448.39                  | 1793.11             | 2163.59            | 182.63                    | 0.00                       | 2191.69           | 2180.13                      | 0.818 | 4.27              | 4.38            | 9.004     | A   |
| 3   | 1377.37               | 344.34                  | 1376.96             | 979.58             | 996.18                    | 0.00                       | 1747.11           | 1604.16                      | 0.788 | 3.52              | 3.63            | 9.698     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 833.36                | 208.34                  | 843.58              | 860.64             | 1091.23                   | 0.00                       | 1410.55           | 1122.56                      | 0.591 | 4.02              | 1.47            | 6.461     | A   |
| 2   | 1464.44               | 366.11                  | 1474.01             | 1783.74            | 151.06                    | 0.00                       | 2211.55           | 2180.13                      | 0.662 | 4.38              | 1.99            | 4.944     | A   |
| 3   | 1124.62               | 281.16                  | 1132.97             | 806.18             | 818.90                    | 0.00                       | 1864.98           | 1604.16                      | 0.603 | 3.63              | 1.54            | 4.972     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 697.90                | 174.47                  | 700.36              | 717.74             | 909.51                    | 0.00                       | 1524.34           | 1122.56                      | 0.458 | 1.47              | 0.85            | 4.383     | A   |
| 2   | 1226.40               | 306.60                  | 1229.42             | 1484.45            | 125.41                    | 0.00                       | 2227.67           | 2180.13                      | 0.551 | 1.99              | 1.24            | 3.619     | A   |
| 3   | 941.82                | 235.45                  | 944.23              | 671.82             | 683.01                    | 0.00                       | 1955.33           | 1604.16                      | 0.482 | 1.54              | 0.94            | 3.568     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.11                          | 0.81                                 | 4.302                                  | A                             | A                           |
| 2   | 17.63                          | 1.18                                 | 3.558                                  | A                             | A                           |
| 3   | 13.41                          | 0.89                                 | 3.516                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 20.28                          | 1.35                                 | 6.120                                  | A                             | A                           |
| 2   | 27.87                          | 1.86                                 | 4.773                                  | A                             | A                           |
| 3   | 21.62                          | 1.44                                 | 4.803                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 51.37                          | 3.42                                 | 13.526                                 | B                             | B                           |
| 2   | 58.79                          | 3.92                                 | 8.619                                  | A                             | A                           |
| 3   | 48.60                          | 3.24                                 | 9.252                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 59.25                          | 3.95                                 | 14.679                                 | B                             | B                           |
| 2   | 65.11                          | 4.34                                 | 9.004                                  | A                             | A                           |
| 3   | 53.82                          | 3.59                                 | 9.698                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 23.51                          | 1.57                                 | 6.461                                  | A                             | A                           |
| 2   | 31.37                          | 2.09                                 | 4.944                                  | A                             | A                           |
| 3   | 24.22                          | 1.61                                 | 4.972                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.15                          | 0.88                                 | 4.383                                  | A                             | A                           |
| 2   | 19.05                          | 1.27                                 | 3.619                                  | A                             | A                           |
| 3   | 14.40                          | 0.96                                 | 3.568                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, PM | Forecast Background + EA2 Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |



# Junction Network

## Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 17.39              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 992.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1930.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1062.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 746.83                            | 759.85                              |                                  |                                        |
| 16:45-17:00  | 2   | 1453.01                           | 1490.07                             |                                  |                                        |
| 16:45-17:00  | 3   | 799.53                            | 827.22                              |                                  |                                        |
| 17:00-17:15  | 1   | 891.79                            | 907.34                              |                                  |                                        |
| 17:00-17:15  | 2   | 1735.03                           | 1779.29                             |                                  |                                        |
| 17:00-17:15  | 3   | 954.72                            | 987.78                              |                                  |                                        |
| 17:15-17:30  | 1   | 1092.21                           | 1111.26                             |                                  |                                        |
| 17:15-17:30  | 2   | 2124.97                           | 2179.17                             |                                  |                                        |
| 17:15-17:30  | 3   | 1169.28                           | 1209.78                             |                                  |                                        |
| 17:30-17:45  | 1   | 1092.21                           | 1111.26                             |                                  |                                        |
| 17:30-17:45  | 2   | 2124.97                           | 2179.17                             |                                  |                                        |
| 17:30-17:45  | 3   | 1169.28                           | 1209.78                             |                                  |                                        |
| 17:45-18:00  | 1   | 891.79                            | 907.34                              |                                  |                                        |
| 17:45-18:00  | 2   | 1735.03                           | 1779.29                             |                                  |                                        |
| 17:45-18:00  | 3   | 954.72                            | 987.78                              |                                  |                                        |
| 18:00-18:15  | 1   | 746.83                            | 759.85                              |                                  |                                        |
| 18:00-18:15  | 2   | 1453.01                           | 1490.07                             |                                  |                                        |
| 18:00-18:15  | 3   | 799.53                            | 827.22                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      | To |         |         |          |
|------|----|---------|---------|----------|
|      |    | 1       | 2       | 3        |
| From | 1  | 0.000   | 798.000 | 194.000  |
|      | 2  | 743.000 | 98.000  | 1089.000 |
|      | 3  | 94.000  | 968.000 | 0.000    |

## Turning Proportions (Veh) - Junction 7 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.80 | 0.20 |
|      | 2  | 0.38 | 0.05 | 0.56 |
|      | 3  | 0.09 | 0.91 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.019 | 1.011 |
|      | 2  | 1.021 | 1.032 | 1.028 |
|      | 3  | 1.000 | 1.038 | 1.000 |

## Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 1.9 | 1.1 |
|      | 2  | 2.1 | 3.2 | 2.8 |
|      | 3  | 0.0 | 3.8 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.80    | 12.80         | 3.77            | B       | 910.27                  | 1365.41                       | 175.31                         | 7.70                       | 1.95                                 | 175.33                                   | 7.70                                 |
| 2   | 0.95    | 26.25         | 14.55           | D       | 1771.00                 | 2656.50                       | 513.67                         | 11.60                      | 5.71                                 | 513.71                                   | 11.60                                |
| 3   | 0.65    | 5.65          | 1.82            | A       | 974.51                  | 1461.76                       | 102.83                         | 4.22                       | 1.14                                 | 102.84                                   | 4.22                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 746.83                | 186.71                  | 743.38              | 627.24             | 799.77                    | 0.00                       | 1607.18           | 1022.59                      | 0.465 | 0.00              | 0.86            | 4.151     | A   |
| 2   | 1453.00               | 363.25                  | 1446.09             | 1397.77            | 145.38                    | 0.00                       | 2283.30           | 2248.66                      | 0.636 | 0.00              | 1.73            | 4.265     | A   |
| 3   | 799.53                | 199.88                  | 796.87              | 961.34             | 630.14                    | 0.00                       | 1998.65           | 1767.93                      | 0.400 | 0.00              | 0.66            | 2.989     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 891.78                | 222.95                  | 889.53              | 750.10             | 956.85                    | 0.00                       | 1508.04           | 1022.65                      | 0.591 | 0.86              | 1.43            | 5.799     | A   |
| 2   | 1735.03               | 433.76                  | 1729.24             | 1672.41            | 173.96                    | 0.00                       | 2265.17           | 2248.65                      | 0.766 | 1.73              | 3.17            | 6.646     | A   |
| 3   | 954.71                | 238.68                  | 953.43              | 1149.68            | 753.52                    | 0.00                       | 1917.25           | 1767.93                      | 0.498 | 0.66              | 0.98            | 3.730     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1092.21               | 273.05                  | 1083.35             | 906.79             | 1168.86                   | 0.00                       | 1374.22           | 1022.67                      | 0.795 | 1.43              | 3.64            | 12.026    | B   |
| 2   | 2124.97               | 531.24                  | 2087.34             | 2040.36            | 211.87                    | 0.00                       | 2241.12           | 2248.65                      | 0.948 | 3.17              | 12.58           | 19.831    | C   |
| 3   | 1169.28               | 292.32                  | 1166.09             | 1389.64            | 909.56                    | 0.00                       | 1814.30           | 1767.93                      | 0.644 | 0.98              | 1.78            | 5.526     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1092.21               | 273.05                  | 1091.67             | 918.52             | 1173.16                   | 0.00                       | 1371.52           | 1022.67                      | 0.796 | 3.64              | 3.77            | 12.802    | B   |
| 2   | 2124.97               | 531.24                  | 2117.10             | 2051.35            | 213.49                    | 0.00                       | 2240.09           | 2248.65                      | 0.949 | 12.58             | 14.55           | 26.251    | D   |
| 3   | 1169.28               | 292.32                  | 1169.14             | 1408.07            | 922.53                    | 0.00                       | 1805.75           | 1767.93                      | 0.648 | 1.78              | 1.82            | 5.653     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 891.78                | 222.95                  | 900.96              | 769.91             | 963.50                    | 0.00                       | 1503.85           | 1022.65                      | 0.593 | 3.77              | 1.48            | 6.060     | A   |
| 2   | 1735.03               | 433.76                  | 1779.66             | 1688.27            | 176.20                    | 0.00                       | 2263.75           | 2248.65                      | 0.766 | 14.55             | 3.39            | 8.090     | A   |
| 3   | 954.71                | 238.68                  | 957.92              | 1180.37            | 775.49                    | 0.00                       | 1902.76           | 1767.93                      | 0.502 | 1.82              | 1.02            | 3.824     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 746.83                | 186.71                  | 749.23              | 632.75             | 804.12                    | 0.00                       | 1604.44           | 1022.59                      | 0.465 | 1.48              | 0.88            | 4.220     | A   |
| 2   | 1453.00               | 363.25                  | 1459.47             | 1406.84            | 146.52                    | 0.00                       | 2282.58           | 2248.66                      | 0.637 | 3.39              | 1.77            | 4.407     | A   |
| 3   | 799.53                | 199.88                  | 800.90              | 970.03             | 635.97                    | 0.00                       | 1994.81           | 1767.93                      | 0.401 | 1.02              | 0.67            | 3.020     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.51                          | 0.83                                 | 4.151                                  | A                             | A                           |
| 2   | 24.85                          | 1.66                                 | 4.265                                  | A                             | A                           |
| 3   | 9.72                           | 0.65                                 | 2.989                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 20.59                          | 1.37                                 | 5.799                                  | A                             | A                           |
| 2   | 44.86                          | 2.99                                 | 6.646                                  | A                             | A                           |
| 3   | 14.42                          | 0.96                                 | 3.730                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 49.31                          | 3.29                                 | 12.026                                 | B                             | B                           |
| 2   | 147.56                         | 9.84                                 | 19.831                                 | C                             | B                           |
| 3   | 25.65                          | 1.71                                 | 5.526                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 55.82                          | 3.72                                 | 12.802                                 | B                             | B                           |
| 2   | 205.61                         | 13.71                                | 26.251                                 | D                             | C                           |
| 3   | 27.07                          | 1.80                                 | 5.653                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 23.53                          | 1.57                                 | 6.060                                  | A                             | A                           |
| 2   | 63.13                          | 4.21                                 | 8.090                                  | A                             | A                           |
| 3   | 15.67                          | 1.04                                 | 3.824                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.55                          | 0.90                                 | 4.220                                  | A                             | A                           |
| 2   | 27.67                          | 1.84                                 | 4.407                                  | A                             | A                           |
| 3   | 10.29                          | 0.69                                 | 3.020                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, AM | Forecast Background + EA2 + EA1N Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 10.88              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 927.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1644.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1254.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 697.89                            | 716.22                              |                                  |                                        |
| 08:00-08:15  | 2   | 1237.69                           | 1308.68                             |                                  |                                        |
| 08:00-08:15  | 3   | 944.08                            | 980.44                              |                                  |                                        |
| 08:15-08:30  | 1   | 833.35                            | 855.23                              |                                  |                                        |
| 08:15-08:30  | 2   | 1477.92                           | 1562.70                             |                                  |                                        |
| 08:15-08:30  | 3   | 1127.32                           | 1170.74                             |                                  |                                        |
| 08:30-08:45  | 1   | 1020.65                           | 1047.44                             |                                  |                                        |
| 08:30-08:45  | 2   | 1810.08                           | 1913.91                             |                                  |                                        |
| 08:30-08:45  | 3   | 1380.68                           | 1433.86                             |                                  |                                        |
| 08:45-09:00  | 1   | 1020.65                           | 1047.44                             |                                  |                                        |
| 08:45-09:00  | 2   | 1810.08                           | 1913.91                             |                                  |                                        |
| 08:45-09:00  | 3   | 1380.68                           | 1433.86                             |                                  |                                        |
| 09:00-09:15  | 1   | 833.35                            | 855.23                              |                                  |                                        |
| 09:00-09:15  | 2   | 1477.92                           | 1562.70                             |                                  |                                        |
| 09:00-09:15  | 3   | 1127.32                           | 1170.74                             |                                  |                                        |
| 09:15-09:30  | 1   | 697.89                            | 716.22                              |                                  |                                        |
| 09:15-09:30  | 2   | 1237.69                           | 1308.68                             |                                  |                                        |
| 09:15-09:30  | 3   | 944.08                            | 980.44                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      | To |         |          |         |
|------|----|---------|----------|---------|
|      |    | 1       | 2        | 3       |
| From | 1  | 0.000   | 761.000  | 166.000 |
|      | 2  | 799.000 | 106.000  | 739.000 |
|      | 3  | 152.000 | 1102.000 | 0.000   |

## Turning Proportions (Veh) - Junction 7 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.82 | 0.18 |
|      | 2  | 0.49 | 0.06 | 0.45 |
|      | 3  | 0.12 | 0.88 | 0.00 |



# Vehicle Mix

## Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.025 | 1.032 |
|      | 2  | 1.030 | 1.050 | 1.088 |
|      | 3  | 1.035 | 1.039 | 1.000 |

## Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 2.5 | 3.2 |
|      | 2  | 3.0 | 5.0 | 8.8 |
|      | 3  | 3.5 | 3.9 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.81    | 14.89         | 4.08            | B       | 850.63                  | 1275.95                       | 181.30                         | 8.53                       | 2.01                                 | 181.31                                   | 8.53                                 |
| 2   | 0.83    | 9.45          | 4.63            | A       | 1508.57                 | 2262.85                       | 229.14                         | 6.08                       | 2.55                                 | 229.16                                   | 6.08                                 |
| 3   | 0.79    | 9.86          | 3.70            | A       | 1150.69                 | 1726.03                       | 178.54                         | 6.21                       | 1.98                                 | 178.56                                   | 6.21                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 697.90                | 174.47                  | 694.55              | 713.10             | 905.86                    | 0.00                       | 1525.62           | 1118.53                      | 0.457 | 0.00              | 0.84            | 4.314     | A   |
| 2   | 1237.69               | 309.42                  | 1232.73             | 1476.05            | 124.37                    | 0.00                       | 2225.86           | 2178.17                      | 0.556 | 0.00              | 1.24            | 3.608     | A   |
| 3   | 944.07                | 236.02                  | 940.37              | 678.50             | 678.60                    | 0.00                       | 1954.94           | 1609.49                      | 0.483 | 0.00              | 0.93            | 3.535     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 833.36                | 208.34                  | 831.05              | 853.20             | 1083.74                   | 0.00                       | 1414.05           | 1118.53                      | 0.589 | 0.84              | 1.41            | 6.150     | A   |
| 2   | 1477.92               | 369.48                  | 1474.95             | 1765.98            | 148.82                    | 0.00                       | 2210.51           | 2178.17                      | 0.669 | 1.24              | 1.99            | 4.875     | A   |
| 3   | 1127.32               | 281.83                  | 1125.00             | 811.83             | 811.94                    | 0.00                       | 1866.44           | 1609.49                      | 0.604 | 0.93              | 1.51            | 4.839     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1020.65               | 255.16                  | 1010.78             | 1041.16            | 1322.06                   | 0.00                       | 1264.56           | 1118.53                      | 0.807 | 1.41              | 3.88            | 13.686    | B   |
| 2   | 1810.08               | 452.52                  | 1800.00             | 2151.85            | 181.00                    | 0.00                       | 2190.29           | 2178.17                      | 0.826 | 1.99              | 4.51            | 8.998     | A   |
| 3   | 1380.67               | 345.17                  | 1372.35             | 990.13             | 990.88                    | 0.00                       | 1747.67           | 1609.49                      | 0.790 | 1.51              | 3.59            | 9.389     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1020.65               | 255.16                  | 1019.86             | 1046.77            | 1329.61                   | 0.00                       | 1259.83           | 1118.53                      | 0.810 | 3.88              | 4.08            | 14.888    | B   |
| 2   | 1810.08               | 452.52                  | 1809.57             | 2166.85            | 182.63                    | 0.00                       | 2189.27           | 2178.17                      | 0.827 | 4.51              | 4.63            | 9.447     | A   |
| 3   | 1380.67               | 345.17                  | 1380.24             | 996.05             | 996.14                    | 0.00                       | 1744.17           | 1609.49                      | 0.792 | 3.59              | 3.70            | 9.862     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 833.36                | 208.34                  | 843.76              | 860.98             | 1094.16                   | 0.00                       | 1407.52           | 1118.53                      | 0.592 | 4.08              | 1.48            | 6.498     | A   |
| 2   | 1477.92               | 369.48                  | 1488.24             | 1786.82            | 151.09                    | 0.00                       | 2209.08           | 2178.17                      | 0.669 | 4.63              | 2.05            | 5.065     | A   |
| 3   | 1127.32               | 281.83                  | 1135.87             | 820.08             | 819.26                    | 0.00                       | 1861.58           | 1609.49                      | 0.606 | 3.70              | 1.56            | 5.019     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 697.90                | 174.47                  | 700.38              | 717.79             | 911.80                    | 0.00                       | 1521.90           | 1118.53                      | 0.459 | 1.48              | 0.85            | 4.394     | A   |
| 2   | 1237.69               | 309.42                  | 1240.85             | 1486.76            | 125.42                    | 0.00                       | 2225.20           | 2178.17                      | 0.556 | 2.05              | 1.26            | 3.670     | A   |
| 3   | 944.07                | 236.02                  | 946.52              | 683.20             | 683.07                    | 0.00                       | 1951.97           | 1609.49                      | 0.484 | 1.56              | 0.94            | 3.591     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.14                          | 0.81                                 | 4.314                                  | A                             | A                           |
| 2   | 18.03                          | 1.20                                 | 3.608                                  | A                             | A                           |
| 3   | 13.51                          | 0.90                                 | 3.535                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 20.37                          | 1.36                                 | 6.150                                  | A                             | A                           |
| 2   | 28.69                          | 1.91                                 | 4.875                                  | A                             | A                           |
| 3   | 21.83                          | 1.46                                 | 4.839                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 51.91                          | 3.46                                 | 13.686                                 | B                             | B                           |
| 2   | 61.69                          | 4.11                                 | 8.998                                  | A                             | A                           |
| 3   | 49.37                          | 3.29                                 | 9.389                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 60.02                          | 4.00                                 | 14.888                                 | B                             | B                           |
| 2   | 68.75                          | 4.58                                 | 9.447                                  | A                             | A                           |
| 3   | 54.80                          | 3.65                                 | 9.862                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 23.66                          | 1.58                                 | 6.498                                  | A                             | A                           |
| 2   | 32.46                          | 2.16                                 | 5.065                                  | A                             | A                           |
| 3   | 24.50                          | 1.63                                 | 5.019                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.19                          | 0.88                                 | 4.394                                  | A                             | A                           |
| 2   | 19.51                          | 1.30                                 | 3.670                                  | A                             | A                           |
| 3   | 14.52                          | 0.97                                 | 3.591                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, PM | Forecast Background + EA2 + EA1N Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 18.05              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 992.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1933.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1076.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 746.83                            | 759.85                              |                                  |                                        |
| 16:45-17:00  | 2   | 1455.26                           | 1494.86                             |                                  |                                        |
| 16:45-17:00  | 3   | 810.07                            | 840.38                              |                                  |                                        |
| 17:00-17:15  | 1   | 891.79                            | 907.34                              |                                  |                                        |
| 17:00-17:15  | 2   | 1737.73                           | 1785.01                             |                                  |                                        |
| 17:00-17:15  | 3   | 967.30                            | 1003.50                             |                                  |                                        |
| 17:15-17:30  | 1   | 1092.21                           | 1111.26                             |                                  |                                        |
| 17:15-17:30  | 2   | 2128.27                           | 2186.18                             |                                  |                                        |
| 17:15-17:30  | 3   | 1184.70                           | 1229.03                             |                                  |                                        |
| 17:30-17:45  | 1   | 1092.21                           | 1111.26                             |                                  |                                        |
| 17:30-17:45  | 2   | 2128.27                           | 2186.18                             |                                  |                                        |
| 17:30-17:45  | 3   | 1184.70                           | 1229.03                             |                                  |                                        |
| 17:45-18:00  | 1   | 891.79                            | 907.34                              |                                  |                                        |
| 17:45-18:00  | 2   | 1737.73                           | 1785.01                             |                                  |                                        |
| 17:45-18:00  | 3   | 967.30                            | 1003.50                             |                                  |                                        |
| 18:00-18:15  | 1   | 746.83                            | 759.85                              |                                  |                                        |
| 18:00-18:15  | 2   | 1455.26                           | 1494.86                             |                                  |                                        |
| 18:00-18:15  | 3   | 810.07                            | 840.38                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      |   | To      |         |          |
|------|---|---------|---------|----------|
| From |   | 1       | 2       | 3        |
|      | 1 | 0.000   | 798.000 | 194.000  |
|      | 2 | 743.000 | 98.000  | 1092.000 |
|      | 3 | 94.000  | 982.000 | 0.000    |

### Turning Proportions (Veh) - Junction 7 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.80 | 0.20 |
|      | 2  | 0.38 | 0.05 | 0.56 |
|      | 3  | 0.09 | 0.91 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.019 | 1.011 |
|      | 2  | 1.021 | 1.032 | 1.031 |
|      | 3  | 1.000 | 1.041 | 1.000 |

### Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 1.9 | 1.1 |
|      | 2  | 2.1 | 3.2 | 3.1 |
|      | 3  | 0.0 | 4.1 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.80    | 13.34         | 3.93            | B       | 910.27                  | 1365.41                       | 180.18                         | 7.92                       | 2.00                                 | 180.19                                   | 7.92                                 |
| 2   | 0.95    | 27.31         | 15.17           | D       | 1773.75                 | 2660.62                       | 528.50                         | 11.92                      | 5.87                                 | 528.54                                   | 11.92                                |
| 3   | 0.66    | 5.84          | 1.90            | A       | 987.35                  | 1481.03                       | 106.66                         | 4.32                       | 1.19                                 | 106.67                                   | 4.32                                 |

### Main Results for each time segment

#### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 746.83                | 186.71                  | 743.35              | 627.22             | 810.25                    | 0.00                       | 1599.22           | 1020.18                      | 0.467 | 0.00              | 0.87            | 4.190     | A   |
| 2   | 1455.26               | 363.81                  | 1448.29             | 1408.22            | 145.37                    | 0.00                       | 2279.53           | 2245.24                      | 0.638 | 0.00              | 1.74            | 4.295     | A   |
| 3   | 810.07                | 202.52                  | 807.34              | 963.55             | 630.12                    | 0.00                       | 1993.31           | 1765.17                      | 0.406 | 0.00              | 0.68            | 3.029     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 891.78                | 222.95                  | 889.47              | 750.06             | 969.38                    | 0.00                       | 1498.52           | 1020.24                      | 0.595 | 0.87              | 1.45            | 5.888     | A   |
| 2   | 1737.72               | 434.43                  | 1731.82             | 1684.90            | 173.95                    | 0.00                       | 2261.43           | 2245.23                      | 0.768 | 1.74              | 3.22            | 6.722     | A   |
| 3   | 967.30                | 241.83                  | 965.96              | 1152.30            | 753.48                    | 0.00                       | 1912.14           | 1765.17                      | 0.506 | 0.68              | 1.02            | 3.800     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1092.21               | 273.05                  | 1082.89             | 906.20             | 1184.03                   | 0.00                       | 1362.68           | 1020.26                      | 0.802 | 1.45              | 3.78            | 12.471    | B   |
| 2   | 2128.27               | 532.07                  | 2089.09             | 2055.15            | 211.78                    | 0.00                       | 2237.47           | 2245.23                      | 0.951 | 3.22              | 13.01           | 20.368    | C   |
| 3   | 1184.70               | 296.17                  | 1181.31             | 1391.96            | 908.92                    | 0.00                       | 1809.87           | 1765.17                      | 0.655 | 1.02              | 1.86            | 5.697     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1092.21               | 273.05                  | 1091.60             | 918.22             | 1188.52                   | 0.00                       | 1359.84           | 1020.26                      | 0.803 | 3.78              | 3.93            | 13.345    | B   |
| 2   | 2128.27               | 532.07                  | 2119.63             | 2066.66            | 213.48                    | 0.00                       | 2236.39           | 2245.23                      | 0.952 | 13.01             | 15.17           | 27.315    | D   |
| 3   | 1184.70               | 296.17                  | 1184.55             | 1410.92            | 922.20                    | 0.00                       | 1801.13           | 1765.17                      | 0.658 | 1.86              | 1.90            | 5.837     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 891.78                | 222.95                  | 901.48              | 770.77             | 976.37                    | 0.00                       | 1494.10           | 1020.24                      | 0.597 | 3.93              | 1.50            | 6.172     | A   |
| 2   | 1737.72               | 434.43                  | 1784.64             | 1701.55            | 176.30                    | 0.00                       | 2259.94           | 2245.23                      | 0.769 | 15.17             | 3.44            | 8.287     | A   |
| 3   | 967.30                | 241.83                  | 970.70              | 1184.49            | 776.45                    | 0.00                       | 1897.02           | 1765.17                      | 0.510 | 1.90              | 1.05            | 3.900     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 746.83                | 186.71                  | 749.30              | 632.80             | 814.73                    | 0.00                       | 1596.39           | 1020.18                      | 0.468 | 1.50              | 0.89            | 4.263     | A   |
| 2   | 1455.26               | 363.81                  | 1461.86             | 1417.50            | 146.54                    | 0.00                       | 2278.79           | 2245.24                      | 0.639 | 3.44              | 1.79            | 4.441     | A   |
| 3   | 810.07                | 202.52                  | 811.50              | 972.38             | 636.02                    | 0.00                       | 1989.42           | 1765.17                      | 0.407 | 1.05              | 0.69            | 3.059     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.62                          | 0.84                                 | 4.190                                  | A                             | A                           |
| 2   | 25.06                          | 1.67                                 | 4.295                                  | A                             | A                           |
| 3   | 9.98                           | 0.67                                 | 3.029                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 20.89                          | 1.39                                 | 5.888                                  | A                             | A                           |
| 2   | 45.41                          | 3.03                                 | 6.722                                  | A                             | A                           |
| 3   | 14.87                          | 0.99                                 | 3.800                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 50.96                          | 3.40                                 | 12.471                                 | B                             | B                           |
| 2   | 151.50                         | 10.10                                | 20.368                                 | C                             | C                           |
| 3   | 26.74                          | 1.78                                 | 5.697                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 58.04                          | 3.87                                 | 13.345                                 | B                             | B                           |
| 2   | 213.62                         | 14.24                                | 27.315                                 | D                             | C                           |
| 3   | 28.29                          | 1.89                                 | 5.837                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 23.99                          | 1.60                                 | 6.172                                  | A                             | A                           |
| 2   | 64.99                          | 4.33                                 | 8.287                                  | A                             | A                           |
| 3   | 16.21                          | 1.08                                 | 3.900                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.69                          | 0.91                                 | 4.263                                  | A                             | A                           |
| 2   | 27.93                          | 1.86                                 | 4.441                                  | A                             | A                           |
| 3   | 10.57                          | 0.70                                 | 3.059                                  | A                             | A                           |

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, AM | Background 2019 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |



# Junction Network

## Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 7.46               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 876.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1484.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1173.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 659.50                            | 676.81                              |                                  |                                        |
| 08:00-08:15  | 2   | 1117.23                           | 1174.99                             |                                  |                                        |
| 08:00-08:15  | 3   | 883.10                            | 907.81                              |                                  |                                        |
| 08:15-08:30  | 1   | 787.51                            | 808.18                              |                                  |                                        |
| 08:15-08:30  | 2   | 1334.09                           | 1403.05                             |                                  |                                        |
| 08:15-08:30  | 3   | 1054.50                           | 1084.01                             |                                  |                                        |
| 08:30-08:45  | 1   | 964.49                            | 989.82                              |                                  |                                        |
| 08:30-08:45  | 2   | 1633.91                           | 1718.38                             |                                  |                                        |
| 08:30-08:45  | 3   | 1291.50                           | 1327.64                             |                                  |                                        |
| 08:45-09:00  | 1   | 659.50                            | 676.81                              |                                  |                                        |
| 08:45-09:00  | 2   | 1633.91                           | 1718.38                             |                                  |                                        |
| 08:45-09:00  | 3   | 1291.50                           | 1327.64                             |                                  |                                        |
| 09:00-09:15  | 1   | 787.51                            | 808.18                              |                                  |                                        |
| 09:00-09:15  | 2   | 1334.09                           | 1403.05                             |                                  |                                        |
| 09:00-09:15  | 3   | 1054.50                           | 1084.01                             |                                  |                                        |
| 09:15-09:30  | 1   | 659.50                            | 676.81                              |                                  |                                        |
| 09:15-09:30  | 2   | 1117.23                           | 1174.99                             |                                  |                                        |
| 09:15-09:30  | 3   | 883.10                            | 907.81                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      |   | To      |          |         |
|------|---|---------|----------|---------|
| From |   | 1       | 2        | 3       |
|      | 1 | 0.000   | 719.000  | 157.000 |
|      | 2 | 755.000 | 100.000  | 629.000 |
|      | 3 | 144.000 | 1029.000 | 0.000   |

### Turning Proportions (Veh) - Junction 7 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.82 | 0.18 |
|      | 2  | 0.51 | 0.07 | 0.42 |
|      | 3  | 0.12 | 0.88 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.025 | 1.032 |
|      | 2  | 1.030 | 1.050 | 1.078 |
|      | 3  | 1.035 | 1.027 | 1.000 |

### Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 2.5 | 3.2 |
|      | 2  | 3.0 | 5.0 | 7.8 |
|      | 3  | 3.5 | 2.7 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.73    | 10.03         | 2.64            | B       | 803.84                  | 1205.75                       | 132.06                         | 6.57                       | 1.47                                 | 132.07                                   | 6.57                                 |
| 2   | 0.74    | 6.27          | 2.81            | A       | 1361.75                 | 2042.62                       | 156.15                         | 4.59                       | 1.73                                 | 156.16                                   | 4.59                                 |
| 3   | 0.72    | 7.09          | 2.51            | A       | 1076.37                 | 1614.55                       | 133.07                         | 4.95                       | 1.48                                 | 133.08                                   | 4.95                                 |

### Main Results for each time segment

#### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 659.50                | 164.88                  | 656.62              | 674.42             | 846.95                    | 0.00                       | 1568.16           | 1139.25                      | 0.421 | 0.00              | 0.72            | 3.925     | A   |
| 2   | 1117.24               | 279.31                  | 1113.29             | 1385.88            | 117.68                    | 0.00                       | 2242.09           | 2187.47                      | 0.498 | 0.00              | 0.99            | 3.179     | A   |
| 3   | 883.10                | 220.77                  | 879.95              | 589.55             | 641.42                    | 0.00                       | 1999.92           | 1584.93                      | 0.442 | 0.00              | 0.79            | 3.205     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 787.51                | 196.88                  | 785.80              | 806.97             | 1013.31                   | 0.00                       | 1464.90           | 1139.25                      | 0.538 | 0.72              | 1.15            | 5.289     | A   |
| 2   | 1334.09               | 333.52                  | 1332.13             | 1658.27            | 140.83                    | 0.00                       | 2227.47           | 2187.47                      | 0.599 | 0.99              | 1.48            | 4.012     | A   |
| 3   | 1054.51               | 263.63                  | 1052.80             | 705.46             | 767.50                    | 0.00                       | 1915.38           | 1584.93                      | 0.551 | 0.79              | 1.21            | 4.165     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 964.50                | 241.12                  | 958.80              | 986.56             | 1238.29                   | 0.00                       | 1325.27           | 1139.25                      | 0.728 | 1.15              | 2.57            | 9.676     | A   |
| 2   | 1633.92               | 408.48                  | 1628.73             | 2025.25            | 171.84                    | 0.00                       | 2207.89           | 2187.47                      | 0.740 | 1.48              | 2.78            | 6.161     | A   |
| 3   | 1291.50               | 322.87                  | 1286.47             | 862.18             | 938.38                    | 0.00                       | 1800.79           | 1584.93                      | 0.717 | 1.21              | 2.47            | 6.932     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 964.50                | 241.12                  | 964.24              | 989.72             | 1242.90                   | 0.00                       | 1322.41           | 1139.25                      | 0.729 | 2.57              | 2.64            | 10.034    | B   |
| 2   | 1633.92               | 408.48                  | 1633.77             | 2034.32            | 172.81                    | 0.00                       | 2207.27           | 2187.47                      | 0.740 | 2.78              | 2.81            | 6.273     | A   |
| 3   | 1291.50               | 322.87                  | 1291.34             | 865.30             | 941.29                    | 0.00                       | 1798.84           | 1584.93                      | 0.718 | 2.47              | 2.51            | 7.089     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 787.51                | 196.88                  | 793.32              | 811.45             | 1019.74                   | 0.00                       | 1460.91           | 1139.25                      | 0.539 | 2.64              | 1.18            | 5.439     | A   |
| 2   | 1334.09               | 333.52                  | 1339.29             | 1670.89            | 142.18                    | 0.00                       | 2226.62           | 2187.47                      | 0.599 | 2.81              | 1.51            | 4.081     | A   |
| 3   | 1054.51               | 263.63                  | 1059.57             | 709.84             | 771.62                    | 0.00                       | 1912.61           | 1584.93                      | 0.551 | 2.51              | 1.24            | 4.244     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 659.50                | 164.88                  | 661.30              | 678.07             | 851.66                    | 0.00                       | 1565.23           | 1139.25                      | 0.421 | 1.18              | 0.73            | 3.991     | A   |
| 2   | 1117.24               | 279.31                  | 1119.28             | 1394.44            | 118.52                    | 0.00                       | 2241.56           | 2187.47                      | 0.498 | 1.51              | 1.00            | 3.215     | A   |
| 3   | 883.10                | 220.77                  | 884.87              | 592.93             | 644.86                    | 0.00                       | 1997.61           | 1584.93                      | 0.442 | 1.24              | 0.80            | 3.239     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.50                          | 0.70                                 | 3.925                                  | A                             | A                           |
| 2   | 14.40                          | 0.96                                 | 3.179                                  | A                             | A                           |
| 3   | 11.49                          | 0.77                                 | 3.205                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.68                          | 1.11                                 | 5.289                                  | A                             | A                           |
| 2   | 21.55                          | 1.44                                 | 4.012                                  | A                             | A                           |
| 3   | 17.70                          | 1.18                                 | 4.165                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 35.85                          | 2.39                                 | 9.676                                  | A                             | A                           |
| 2   | 39.42                          | 2.63                                 | 6.161                                  | A                             | A                           |
| 3   | 34.98                          | 2.33                                 | 6.932                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 39.19                          | 2.61                                 | 10.034                                 | B                             | B                           |
| 2   | 41.96                          | 2.80                                 | 6.273                                  | A                             | A                           |
| 3   | 37.41                          | 2.49                                 | 7.089                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 18.55                          | 1.24                                 | 5.439                                  | A                             | A                           |
| 2   | 23.46                          | 1.56                                 | 4.081                                  | A                             | A                           |
| 3   | 19.27                          | 1.28                                 | 4.244                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 11.28                          | 0.75                                 | 3.991                                  | A                             | A                           |
| 2   | 15.35                          | 1.02                                 | 3.215                                  | A                             | A                           |
| 3   | 12.22                          | 0.81                                 | 3.239                                  | A                             | A                           |

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 3 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, PM | Background 2019 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name            | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 7        | A12, Woods Lane | Roundabout    | 1,2,3     |                 |                  |                    | 9.90               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Woods Lane  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.18                             | 8.40                | 30.00                           | 28.33                | 66.00                             | 9.50                               |           |
| 2   | 7.84                             | 8.39                | 1.35                            | 20.92                | 66.00                             | 32.00                              |           |
| 3   | 4.00                             | 8.68                | 68.00                           | 24.40                | 66.00                             | 17.50                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.619       | 2148.783                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.644       | 2436.136                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.668       | 2498.015                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 937.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1814.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 947.00                       | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 705.42                            | 717.72                              |                                  |                                        |
| 16:45-17:00  | 2   | 1365.67                           | 1393.59                             |                                  |                                        |
| 16:45-17:00  | 3   | 712.95                            | 731.68                              |                                  |                                        |
| 17:00-17:15  | 1   | 842.34                            | 857.03                              |                                  |                                        |
| 17:00-17:15  | 2   | 1630.75                           | 1664.08                             |                                  |                                        |
| 17:00-17:15  | 3   | 851.33                            | 873.70                              |                                  |                                        |
| 17:15-17:30  | 1   | 1031.66                           | 1049.65                             |                                  |                                        |
| 17:15-17:30  | 2   | 1997.25                           | 2038.08                             |                                  |                                        |
| 17:15-17:30  | 3   | 1042.67                           | 1070.06                             |                                  |                                        |
| 17:30-17:45  | 1   | 1031.66                           | 1049.65                             |                                  |                                        |
| 17:30-17:45  | 2   | 1997.25                           | 2038.08                             |                                  |                                        |
| 17:30-17:45  | 3   | 1042.67                           | 1070.06                             |                                  |                                        |
| 17:45-18:00  | 1   | 842.34                            | 857.03                              |                                  |                                        |
| 17:45-18:00  | 2   | 1630.75                           | 1664.08                             |                                  |                                        |
| 17:45-18:00  | 3   | 851.33                            | 873.70                              |                                  |                                        |
| 18:00-18:15  | 1   | 705.42                            | 717.72                              |                                  |                                        |
| 18:00-18:15  | 2   | 1365.67                           | 1393.59                             |                                  |                                        |
| 18:00-18:15  | 3   | 712.95                            | 731.68                              |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 7 (for whole period)

|      |   | To      |         |          |
|------|---|---------|---------|----------|
| From |   | 1       | 2       | 3        |
|      | 1 | 0.000   | 754.000 | 183.000  |
|      | 2 | 702.000 | 93.000  | 1019.000 |
|      | 3 | 89.000  | 858.000 | 0.000    |

### Turning Proportions (Veh) - Junction 7 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.80 | 0.20 |
|      | 2  | 0.39 | 0.05 | 0.56 |
|      | 3  | 0.09 | 0.91 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 7 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.019 | 1.011 |
|      | 2  | 1.021 | 1.032 | 1.019 |
|      | 3  | 1.000 | 1.029 | 1.000 |

### Heavy Vehicle Percentages - Junction 7 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 1.9 | 1.1 |
|      | 2  | 2.1 | 3.2 | 1.9 |
|      | 3  | 0.0 | 2.9 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.71    | 8.46          | 2.39            | A       | 859.81                  | 1289.71                       | 125.33                         | 5.83                       | 1.39                                 | 125.34                                   | 5.83                                 |
| 2   | 0.88    | 13.49         | 7.19            | B       | 1664.56                 | 2496.84                       | 315.32                         | 7.58                       | 3.50                                 | 315.35                                   | 7.58                                 |
| 3   | 0.56    | 4.45          | 1.28            | A       | 868.99                  | 1303.48                       | 76.86                          | 3.54                       | 0.85                                 | 76.87                                    | 3.54                                 |

### Main Results for each time segment

#### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 705.42                | 176.36                  | 702.50              | 593.07             | 713.73                    | 0.00                       | 1665.03           | 1032.08                      | 0.424 | 0.00              | 0.73            | 3.730     | A   |
| 2   | 1365.67               | 341.42                  | 1359.89             | 1279.03            | 137.20                    | 0.00                       | 2299.86           | 2258.82                      | 0.594 | 0.00              | 1.45            | 3.806     | A   |
| 3   | 712.95                | 178.24                  | 710.81              | 901.11             | 595.98                    | 0.00                       | 2037.67           | 1775.63                      | 0.350 | 0.00              | 0.54            | 2.708     | A   |



### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 842.34                | 210.59                  | 840.73              | 709.46             | 853.90                    | 0.00                       | 1577.26           | 1032.09                      | 0.534 | 0.73              | 1.13            | 4.877     | A   |
| 2   | 1630.75               | 407.69                  | 1626.73             | 1530.44            | 164.20                    | 0.00                       | 2282.65           | 2258.82                      | 0.714 | 1.45              | 2.45            | 5.454     | A   |
| 3   | 851.34                | 212.83                  | 850.43              | 1078.00            | 712.93                    | 0.00                       | 1959.88           | 1775.63                      | 0.434 | 0.54              | 0.76            | 3.241     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1031.65               | 257.91                  | 1026.80             | 863.95             | 1044.35                   | 0.00                       | 1458.00           | 1032.15                      | 0.708 | 1.13              | 2.35            | 8.257     | A   |
| 2   | 1997.25               | 499.31                  | 1979.77             | 1870.60            | 200.54                    | 0.00                       | 2259.48           | 2258.81                      | 0.884 | 2.45              | 6.82            | 12.172    | B   |
| 3   | 1042.67               | 260.67                  | 1040.66             | 1312.65            | 867.65                    | 0.00                       | 1856.98           | 1775.63                      | 0.561 | 0.76              | 1.27            | 4.399     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1031.65               | 257.91                  | 1031.49             | 870.34             | 1046.95                   | 0.00                       | 1456.37           | 1032.15                      | 0.708 | 2.35              | 2.39            | 8.464     | A   |
| 2   | 1997.25               | 499.31                  | 1995.80             | 1876.99            | 201.45                    | 0.00                       | 2258.90           | 2258.81                      | 0.884 | 6.82              | 7.19            | 13.494    | B   |
| 3   | 1042.67               | 260.67                  | 1042.62             | 1322.58            | 874.67                    | 0.00                       | 1852.30           | 1775.63                      | 0.563 | 1.27              | 1.28            | 4.446     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 842.34                | 210.59                  | 847.25              | 718.44             | 857.69                    | 0.00                       | 1574.88           | 1032.09                      | 0.535 | 2.39              | 1.16            | 4.979     | A   |
| 2   | 1630.75               | 407.69                  | 1649.26             | 1539.47            | 165.47                    | 0.00                       | 2281.84           | 2258.82                      | 0.715 | 7.19              | 2.56            | 5.850     | A   |
| 3   | 851.34                | 212.83                  | 853.34              | 1091.93            | 722.80                    | 0.00                       | 1953.32           | 1775.63                      | 0.436 | 1.28              | 0.78            | 3.280     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 705.42                | 176.36                  | 707.11              | 597.27             | 717.04                    | 0.00                       | 1662.95           | 1032.08                      | 0.424 | 1.16              | 0.74            | 3.774     | A   |
| 2   | 1365.67               | 341.42                  | 1369.99             | 1286.04            | 138.10                    | 0.00                       | 2299.29           | 2258.82                      | 0.594 | 2.56              | 1.48            | 3.891     | A   |
| 3   | 712.95                | 178.24                  | 713.90              | 907.69             | 600.41                    | 0.00                       | 2034.72           | 1775.63                      | 0.350 | 0.78              | 0.54            | 2.726     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.65                          | 0.71                                 | 3.730                                  | A                             | A                           |
| 2   | 20.94                          | 1.40                                 | 3.806                                  | A                             | A                           |
| 3   | 7.88                           | 0.53                                 | 2.708                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.50                          | 1.10                                 | 4.877                                  | A                             | A                           |
| 2   | 35.13                          | 2.34                                 | 5.454                                  | A                             | A                           |
| 3   | 11.24                          | 0.75                                 | 3.241                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 33.06                          | 2.20                                 | 8.257                                  | A                             | A                           |
| 2   | 89.11                          | 5.94                                 | 12.172                                 | B                             | B                           |
| 3   | 18.44                          | 1.23                                 | 4.399                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 35.60                          | 2.37                                 | 8.464                                  | A                             | A                           |
| 2   | 105.59                         | 7.04                                 | 13.494                                 | B                             | B                           |
| 3   | 19.12                          | 1.27                                 | 4.446                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 18.12                          | 1.21                                 | 4.979                                  | A                             | A                           |
| 2   | 41.66                          | 2.78                                 | 5.850                                  | A                             | A                           |
| 3   | 11.93                          | 0.80                                 | 3.280                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 11.40                          | 0.76                                 | 3.774                                  | A                             | A                           |
| 2   | 22.89                          | 1.53                                 | 3.891                                  | A                             | A                           |
| 3   | 8.26                           | 0.55                                 | 2.726                                  | A                             | A                           |

# **East Anglia TWO Offshore Windfarm**

Junction 8

# Junction 8- A12 / B1079 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | B1079     |
| -    | B   | A12       |
| -    | C   | B1079     |
| -    | D   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 137  | 65  | 239  | 441    |
| B       | 351 | 8    | 137 | 819  | 1315   |
| C       | 62  | 271  | 0   | 36   | 369    |
| D       | 84  | 1155 | 257 | 65   | 1561   |
| Totals  | 497 | 1571 | 459 | 1159 | 3686   |

### HGVs

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 4  | 3  | 0  | 7      |
| B       | 3 | 0  | 5  | 67 | 75     |
| C       | 1 | 5  | 0  | 5  | 11     |
| D       | 1 | 69 | 4  | 4  | 78     |
| Totals  | 5 | 78 | 12 | 76 | 171    |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 141  | 68  | 239  | 448    |
| B       | 354 | 8    | 142 | 886  | 1390   |
| C       | 63  | 276  | 0   | 41   | 380    |
| D       | 85  | 1224 | 261 | 69   | 1639   |
| Totals  | 502 | 1649 | 471 | 1235 | 3857   |

### %HGV

| From/To | A    | B    | C    | D     | Average |
|---------|------|------|------|-------|---------|
| A       | 0.0% | 2.8% | 4.4% | 0.0%  | 2%      |
| B       | 0.8% | 0.0% | 3.5% | 7.6%  | 3%      |
| C       | 1.6% | 1.8% | 0.0% | 12.2% | 4%      |
| D       | 1.2% | 5.6% | 1.5% | 5.8%  | 4%      |
| Average | 1%   | 3%   | 2%   | 6%    | 3%      |

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:30PM - 17:30PM

### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 100  | 70  | 193  | 363    |
| B       | 179 | 3    | 161 | 1284 | 1627   |
| C       | 58  | 185  | 0   | 80   | 323    |
| D       | 103 | 1226 | 203 | 54   | 1586   |
| Totals  | 340 | 1514 | 434 | 1611 | 3899   |

### HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 1  | 1 | 0  | 2      |
| B       | 2 | 0  | 1 | 34 | 37     |
| C       | 0 | 3  | 0 | 0  | 3      |
| D       | 2 | 30 | 5 | 2  | 39     |
| Totals  | 4 | 34 | 7 | 36 | 81     |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 101  | 71  | 193  | 365    |
| B       | 181 | 3    | 162 | 1318 | 1664   |
| C       | 58  | 188  | 0   | 80   | 326    |
| D       | 105 | 1256 | 208 | 56   | 1625   |
| Totals  | 344 | 1548 | 441 | 1647 | 3980   |

### %HGV

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.0% | 1.4% | 0.0% | 1%      |
| B       | 1.1% | 0.0% | 0.6% | 2.6% | 1%      |
| C       | 0.0% | 1.6% | 0.0% | 0.0% | 0%      |
| D       | 1.9% | 2.4% | 2.4% | 3.6% | 3%      |
| Average | 1%   | 1%   | 1%   | 2%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 145  | 69  | 253  | 466    |
| B       | 371 | 8    | 145 | 866  | 1391   |
| C       | 66  | 287  | 0   | 38   | 390    |
| D       | 89  | 1222 | 272 | 69   | 1651   |
| Totals  | 526 | 1662 | 486 | 1226 | 3899   |

### Growth Factored HGVs

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 4  | 3  | 0  | 7      |
| B       | 3 | 0  | 5  | 71 | 79     |
| C       | 1 | 5  | 0  | 5  | 12     |
| D       | 1 | 73 | 4  | 4  | 83     |
| Totals  | 5 | 83 | 13 | 80 | 181    |

### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 149  | 72  | 253  | 474    |
| B       | 374 | 8    | 150 | 937  | 1470   |
| C       | 67  | 292  | 0   | 43   | 402    |
| D       | 90  | 1295 | 276 | 73   | 1734   |
| Totals  | 531 | 1744 | 498 | 1306 | 4080   |

### %HGV

| From/To | A    | B    | C    | D     | Average |
|---------|------|------|------|-------|---------|
| A       | 0.0% | 2.8% | 4.4% | 0.0%  | 2%      |
| B       | 0.8% | 0.0% | 3.5% | 7.6%  | 3%      |
| C       | 1.6% | 1.8% | 0.0% | 12.2% | 4%      |
| D       | 1.2% | 5.6% | 1.5% | 5.8%  | 4%      |
| Average | 1%   | 3%   | 2%   | 6%    | 3%      |

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 106  | 74  | 204  | 384    |
| B       | 190 | 3    | 170 | 1359 | 1723   |
| C       | 61  | 196  | 0   | 85   | 342    |
| D       | 109 | 1298 | 215 | 57   | 1679   |
| Totals  | 360 | 1603 | 460 | 1706 | 4128   |

### Growth Factored HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 1  | 1 | 0  | 2      |
| B       | 2 | 0  | 1 | 36 | 39     |
| C       | 0 | 3  | 0 | 0  | 3      |
| D       | 2 | 32 | 5 | 2  | 41     |
| Totals  | 4 | 36 | 7 | 38 | 86     |

### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 107  | 75  | 204  | 386    |
| B       | 192 | 3    | 172 | 1395 | 1762   |
| C       | 61  | 199  | 0   | 85   | 345    |
| D       | 111 | 1330 | 220 | 59   | 1721   |
| Totals  | 364 | 1639 | 467 | 1744 | 4214   |

### %HGV

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.0% | 1.4% | 0.0% | 1%      |
| B       | 1.1% | 0.0% | 0.6% | 2.6% | 1%      |
| C       | 0.0% | 1.6% | 0.0% | 0.0% | 0%      |
| D       | 1.9% | 2.4% | 2.4% | 3.6% | 3%      |
| Average | 1%   | 1%   | 1%   | 2%   | 1%      |

**Junction 8- A12 / B1079 Junction**



**Notes**

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | B1079     |
| -    | B   | A12       |
| -    | C   | B1079     |
| -    | D   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A | B | C | D  | Totals |
|---------|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 42 | 42     |
| C       | 0 | 0 | 0 | 0  | 0      |
| D       | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 42 | 42     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 52 | 52     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 52 | 63     |

**%HGV**

| From/To | A    | B      | C    | D     | Average |
|---------|------|--------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 20.1% | 5%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 5%    | 8%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A | B  | C | D | Totals |
|---------|---|----|---|---|--------|
| A       | 0 | 0  | 0 | 0 | 0      |
| B       | 0 | 0  | 0 | 0 | 0      |
| C       | 0 | 0  | 0 | 0 | 0      |
| D       | 0 | 42 | 0 | 0 | 42     |
| Totals  | 0 | 42 | 0 | 0 | 42     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 52 | 0 | 0  | 52     |
| Totals  | 0 | 52 | 0 | 11 | 63     |

**%HGV**

| From/To | A    | B     | C    | D      | Average |
|---------|------|-------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 20.1% | 0.0% | 0.0%   | 5%      |
| Average | 0%   | 5%    | 0%   | 25%    | 8%      |

**Forecast Flows + EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 145  | 69  | 253  | 466    |
| B       | 371 | 8    | 145 | 908  | 1433   |
| C       | 66  | 287  | 0   | 38   | 390    |
| D       | 89  | 1222 | 272 | 69   | 1651   |
| Totals  | 526 | 1662 | 486 | 1268 | 3941   |

**HGVs**

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 4  | 3  | 0  | 7      |
| B       | 3 | 0  | 5  | 81 | 90     |
| C       | 1 | 5  | 0  | 5  | 12     |
| D       | 1 | 83 | 4  | 4  | 93     |
| Totals  | 5 | 93 | 13 | 91 | 202    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 149  | 72  | 253  | 474    |
| B       | 374 | 8    | 150 | 989  | 1523   |
| C       | 67  | 292  | 0   | 43   | 402    |
| D       | 90  | 1305 | 276 | 73   | 1744   |
| Totals  | 531 | 1755 | 498 | 1359 | 4143   |

**%HGV**

| From/To | A    | B    | C    | D     | Average |
|---------|------|------|------|-------|---------|
| A       | 0.0% | 2.8% | 4.4% | 0.0%  | 2%      |
| B       | 0.8% | 0.0% | 3.5% | 8.2%  | 3%      |
| C       | 1.6% | 1.8% | 0.0% | 12.2% | 4%      |
| D       | 1.2% | 6.4% | 1.5% | 5.8%  | 4%      |
| Average | 1%   | 3%   | 2%   | 7%    | 3%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 106  | 74  | 204  | 384    |
| B       | 190 | 3    | 170 | 1359 | 1723   |
| C       | 61  | 196  | 0   | 85   | 342    |
| D       | 109 | 1340 | 215 | 57   | 1721   |
| Totals  | 360 | 1645 | 460 | 1706 | 4170   |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 1  | 1 | 0  | 2      |
| B       | 2 | 0  | 1 | 46 | 50     |
| C       | 0 | 3  | 0 | 0  | 3      |
| D       | 2 | 42 | 5 | 2  | 52     |
| Totals  | 4 | 46 | 7 | 49 | 107    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 107  | 75  | 204  | 386    |
| B       | 192 | 3    | 172 | 1406 | 1772   |
| C       | 61  | 199  | 0   | 85   | 345    |
| D       | 111 | 1382 | 220 | 59   | 1773   |
| Totals  | 364 | 1691 | 467 | 1754 | 4277   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.0% | 1.4% | 0.0% | 1%      |
| B       | 1.1% | 0.0% | 0.6% | 3.3% | 1%      |
| C       | 0.0% | 1.6% | 0.0% | 0.0% | 0%      |
| D       | 1.9% | 3.1% | 2.4% | 3.6% | 3%      |
| Average | 1%   | 1%   | 1%   | 2%   | 1%      |

# Junction 8- A12 / B1079 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | B1079     |
| -    | B   | A12       |
| -    | C   | B1079     |
| -    | D   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 137  | 65  | 239  | 441    |
| B       | 351 | 8    | 137 | 819  | 1315   |
| C       | 62  | 271  | 0   | 36   | 369    |
| D       | 84  | 1155 | 257 | 65   | 1561   |
| Totals  | 497 | 1571 | 459 | 1159 | 3686   |

### HGVs

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 4  | 3  | 0  | 7      |
| B       | 3 | 0  | 5  | 67 | 75     |
| C       | 1 | 5  | 0  | 5  | 11     |
| D       | 1 | 69 | 4  | 4  | 78     |
| Totals  | 5 | 78 | 12 | 76 | 171    |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 141  | 68  | 239  | 448    |
| B       | 354 | 8    | 142 | 886  | 1390   |
| C       | 63  | 276  | 0   | 41   | 380    |
| D       | 85  | 1224 | 261 | 69   | 1639   |
| Totals  | 502 | 1649 | 471 | 1235 | 3857   |

### %HGV

| From/To | A    | B    | C    | D     | Average |
|---------|------|------|------|-------|---------|
| A       | 0.0% | 2.8% | 4.4% | 0.0%  | 2%      |
| B       | 0.8% | 0.0% | 3.5% | 7.6%  | 3%      |
| C       | 1.6% | 1.8% | 0.0% | 12.2% | 4%      |
| D       | 1.2% | 5.6% | 1.5% | 5.8%  | 4%      |
| Average | 1%   | 3%   | 2%   | 6%    | 3%      |

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:30PM - 17:30PM

### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 100  | 70  | 193  | 363    |
| B       | 179 | 3    | 161 | 1284 | 1627   |
| C       | 58  | 185  | 0   | 80   | 323    |
| D       | 103 | 1226 | 203 | 54   | 0      |
| Totals  | 340 | 1514 | 434 | 1611 | 3899   |

### HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 1  | 1 | 0  | 2      |
| B       | 2 | 0  | 1 | 34 | 37     |
| C       | 0 | 3  | 0 | 0  | 3      |
| D       | 2 | 30 | 5 | 2  | 39     |
| Totals  | 4 | 34 | 7 | 36 | 81     |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 101  | 71  | 193  | 365    |
| B       | 181 | 3    | 162 | 1318 | 1664   |
| C       | 58  | 188  | 0   | 80   | 326    |
| D       | 105 | 1256 | 208 | 56   | 1625   |
| Totals  | 344 | 1548 | 441 | 1647 | 3980   |

### %HGV

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.0% | 1.4% | 0.0% | 1%      |
| B       | 1.1% | 0.0% | 0.6% | 2.6% | 1%      |
| C       | 0.0% | 1.6% | 0.0% | 0.0% | 0%      |
| D       | 1.9% | 2.4% | 2.4% | 3.6% | 3%      |
| Average | 1%   | 1%   | 1%   | 2%   | 1%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 145  | 69  | 253  | 466    |
| B       | 371 | 8    | 145 | 866  | 1391   |
| C       | 66  | 287  | 0   | 38   | 390    |
| D       | 89  | 1222 | 272 | 69   | 1651   |
| Totals  | 526 | 1662 | 486 | 1226 | 3899   |

### Growth Factored HGVs

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 4  | 3  | 0  | 7      |
| B       | 3 | 0  | 5  | 71 | 79     |
| C       | 1 | 5  | 0  | 5  | 12     |
| D       | 1 | 73 | 4  | 4  | 83     |
| Totals  | 5 | 83 | 13 | 80 | 181    |

### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 149  | 72  | 253  | 474    |
| B       | 374 | 8    | 150 | 937  | 1470   |
| C       | 67  | 292  | 0   | 43   | 402    |
| D       | 90  | 1295 | 276 | 73   | 1734   |
| Totals  | 531 | 1744 | 498 | 1306 | 4080   |

### %HGV

| From/To | A    | B    | C    | D     | Average |
|---------|------|------|------|-------|---------|
| A       | 0.0% | 2.8% | 4.4% | 0.0%  | 2%      |
| B       | 0.8% | 0.0% | 3.5% | 7.6%  | 3%      |
| C       | 1.6% | 1.8% | 0.0% | 12.2% | 4%      |
| D       | 1.2% | 5.6% | 1.5% | 5.8%  | 4%      |
| Average | 1%   | 3%   | 2%   | 6%    | 3%      |

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 106  | 74  | 204  | 384    |
| B       | 190 | 3    | 170 | 1359 | 1723   |
| C       | 61  | 196  | 0   | 85   | 342    |
| D       | 109 | 1298 | 215 | 57   | 1679   |
| Totals  | 360 | 1603 | 460 | 1706 | 4128   |

### Growth Factored HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 1  | 1 | 0  | 2      |
| B       | 2 | 0  | 1 | 36 | 39     |
| C       | 0 | 3  | 0 | 0  | 3      |
| D       | 2 | 32 | 5 | 2  | 41     |
| Totals  | 4 | 36 | 7 | 38 | 86     |

### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 107  | 75  | 204  | 386    |
| B       | 192 | 3    | 172 | 1395 | 1762   |
| C       | 61  | 199  | 0   | 85   | 345    |
| D       | 111 | 1330 | 220 | 59   | 1721   |
| Totals  | 364 | 1639 | 467 | 1744 | 4214   |

### %HGV

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.0% | 1.4% | 0.0% | 1%      |
| B       | 1.1% | 0.0% | 0.6% | 2.6% | 1%      |
| C       | 0.0% | 1.6% | 0.0% | 0.0% | 0%      |
| D       | 1.9% | 2.4% | 2.4% | 3.6% | 3%      |
| Average | 1%   | 1%   | 1%   | 2%   | 1%      |

**Junction 8- A12 / B1079 Junction**



**Notes**

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | B1079     |
| -    | B   | A12       |
| -    | C   | B1079     |
| -    | D   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A | B | C | D  | Totals |
|---------|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 52 | 52     |
| C       | 0 | 0 | 0 | 0  | 0      |
| D       | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 52 | 52     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 65 | 65     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 65 | 79     |

**%HGV**

| From/To | A    | B      | C    | D     | Average |
|---------|------|--------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 20.7% | 5%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 5%    | 8%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A | B  | C | D | Totals |
|---------|---|----|---|---|--------|
| A       | 0 | 0  | 0 | 0 | 0      |
| B       | 0 | 0  | 0 | 0 | 0      |
| C       | 0 | 0  | 0 | 0 | 0      |
| D       | 0 | 52 | 0 | 0 | 52     |
| Totals  | 0 | 52 | 0 | 0 | 52     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 65 | 0 | 0  | 65     |
| Totals  | 0 | 65 | 0 | 14 | 79     |

**%HGV**

| From/To | A    | B     | C    | D      | Average |
|---------|------|-------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 20.7% | 0.0% | 0.0%   | 5%      |
| Average | 0%   | 5%    | 0%   | 25%    | 8%      |

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 145  | 69  | 253  | 466    |
| B       | 371 | 8    | 145 | 918  | 1443   |
| C       | 66  | 287  | 0   | 38   | 390    |
| D       | 89  | 1222 | 272 | 69   | 1651   |
| Totals  | 526 | 1662 | 486 | 1278 | 3951   |

**HGVs**

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 4  | 3  | 0  | 7      |
| B       | 3 | 0  | 5  | 84 | 93     |
| C       | 1 | 5  | 0  | 5  | 12     |
| D       | 1 | 86 | 4  | 4  | 96     |
| Totals  | 5 | 96 | 13 | 94 | 208    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 149  | 72  | 253  | 474    |
| B       | 374 | 8    | 150 | 1002 | 1536   |
| C       | 67  | 292  | 0   | 43   | 402    |
| D       | 90  | 1308 | 276 | 73   | 1747   |
| Totals  | 531 | 1758 | 498 | 1372 | 4159   |

**%HGV**

| From/To | A    | B    | C    | D     | Average |
|---------|------|------|------|-------|---------|
| A       | 0.0% | 2.8% | 4.4% | 0.0%  | 2%      |
| B       | 0.8% | 0.0% | 3.5% | 8.4%  | 3%      |
| C       | 1.6% | 1.8% | 0.0% | 12.2% | 4%      |
| D       | 1.2% | 6.6% | 1.5% | 5.8%  | 4%      |
| Average | 1%   | 3%   | 2%   | 7%    | 3%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 106  | 74  | 204  | 384    |
| B       | 190 | 3    | 170 | 1359 | 1723   |
| C       | 61  | 196  | 0   | 85   | 342    |
| D       | 109 | 1350 | 215 | 57   | 1731   |
| Totals  | 360 | 1655 | 460 | 1706 | 4180   |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 1  | 1 | 0  | 2      |
| B       | 2 | 0  | 1 | 49 | 53     |
| C       | 0 | 3  | 0 | 0  | 3      |
| D       | 2 | 45 | 5 | 2  | 55     |
| Totals  | 4 | 49 | 7 | 52 | 113    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 107  | 75  | 204  | 386    |
| B       | 192 | 3    | 172 | 1409 | 1775   |
| C       | 61  | 199  | 0   | 85   | 345    |
| D       | 111 | 1395 | 220 | 59   | 1786   |
| Totals  | 364 | 1704 | 467 | 1757 | 4293   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.0% | 1.4% | 0.0% | 1%      |
| B       | 1.1% | 0.0% | 0.6% | 3.5% | 1%      |
| C       | 0.0% | 1.6% | 0.0% | 0.0% | 0%      |
| D       | 1.9% | 3.2% | 2.4% | 3.6% | 3%      |
| Average | 1%   | 1%   | 1%   | 2%   | 1%      |

| Junctions 8                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ARCADY 8 - Roundabout Module                                                                                                                                                |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |

**Filename:** Junction 8 - A12 and B1079.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 16:14:29

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - » Existing Layout - Background 2019, AM
  - » Existing Layout - Background 2019, PM



## Summary of junction performance

|                                                                      | AM          |           |      |     | PM          |           |      |     |
|----------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| Existing Layout - Background 2019                                    |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 2.98        | 22.71     | 0.76 | C   | 1.10        | 9.95      | 0.53 | A   |
| Arm 2                                                                | 4.22        | 10.18     | 0.81 | B   | 8.43        | 17.44     | 0.90 | C   |
| Arm 3                                                                | 3.23        | 29.30     | 0.78 | D   | 3.61        | 38.53     | 0.80 | E   |
| Arm 4                                                                | 4.53        | 9.28      | 0.82 | A   | 2.53        | 5.16      | 0.72 | A   |
| Existing Layout - Forecast Background + EA2 + EA1N Construction 2023 |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 7.51        | 55.45     | 0.91 | F   | 1.80        | 15.61     | 0.65 | C   |
| Arm 2                                                                | 9.62        | 21.78     | 0.92 | C   | 23.05       | 43.78     | 0.98 | E   |
| Arm 3                                                                | 15.82       | 124.91    | 1.02 | F   | 13.31       | 123.17    | 1.02 | F   |
| Arm 4                                                                | 7.68        | 15.09     | 0.89 | C   | 3.86        | 7.21      | 0.80 | A   |
| Existing Layout - Forecast Background + EA2 Construction 2023        |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 7.27        | 53.68     | 0.91 | F   | 1.73        | 15.02     | 0.64 | C   |
| Arm 2                                                                | 8.64        | 19.67     | 0.91 | C   | 21.94       | 41.97     | 0.98 | E   |
| Arm 3                                                                | 13.20       | 107.15    | 1.00 | F   | 12.72       | 118.49    | 1.01 | F   |
| Arm 4                                                                | 7.52        | 14.80     | 0.89 | B   | 3.72        | 7.00      | 0.79 | A   |
| Existing Layout - Forecast Background 2023                           |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 6.64        | 49.09     | 0.90 | E   | 1.50        | 12.94     | 0.60 | B   |
| Arm 2                                                                | 6.37        | 14.81     | 0.87 | B   | 18.48       | 36.14     | 0.97 | E   |
| Arm 3                                                                | 7.56        | 65.81     | 0.92 | F   | 10.71       | 102.35    | 0.98 | F   |
| Arm 4                                                                | 7.10        | 14.00     | 0.88 | B   | 3.21        | 6.20      | 0.77 | A   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA2 Construction 2023, AM" model duration: 08:00 - 09:30

"D4 - Forecast Background + EA2 Construction 2023, PM" model duration: 16:45 - 18:15

"D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Background 2019, AM" model duration: 08:00 - 09:30

"D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:14:22

## File summary

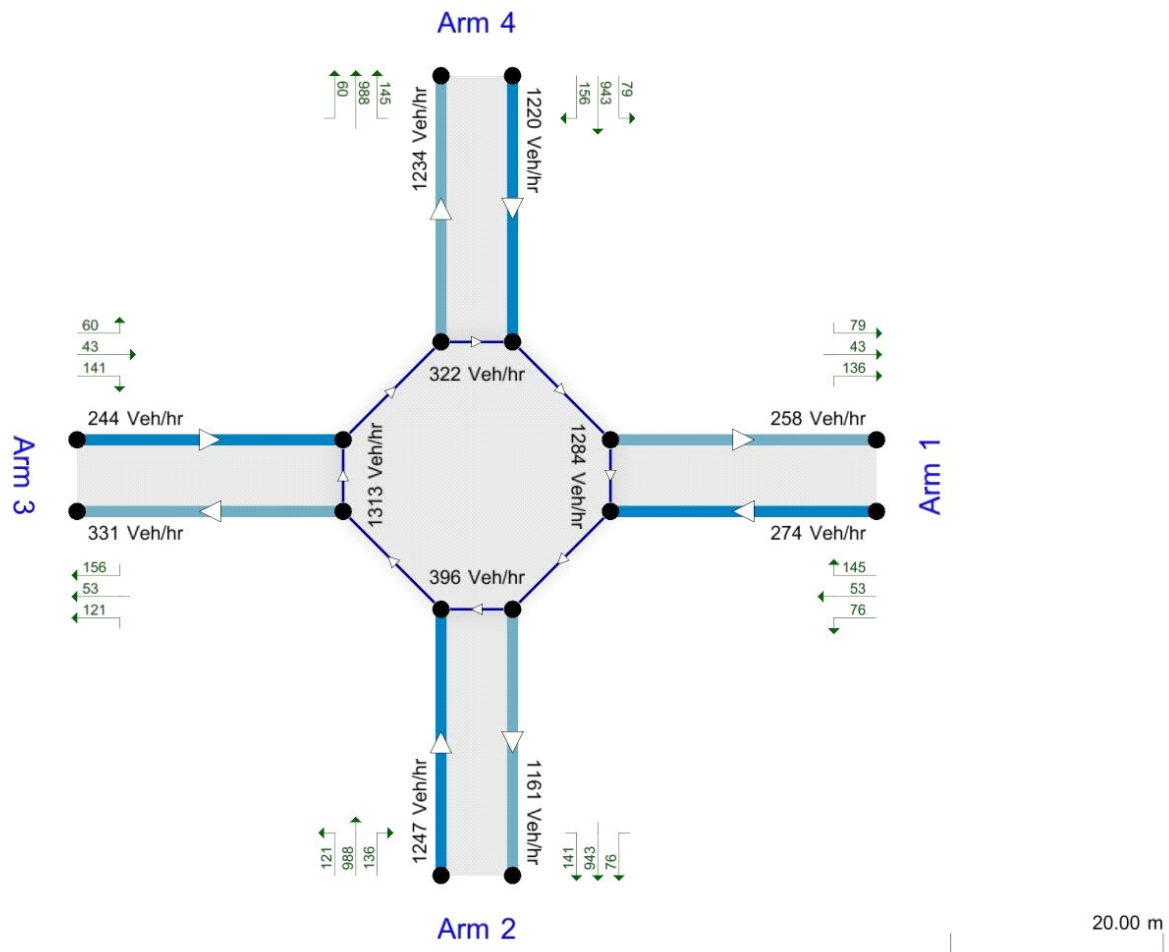
|             |                                               |
|-------------|-----------------------------------------------|
| Title       | East Anglia TWO Offshore Windfarm             |
| Location    | Roundabout junction of the A12 and Woods Lane |
| Site Number | J8                                            |
| Date        | 25/06/2019                                    |
| Version     | D0.1                                          |
| Status      | Existing Layout                               |
| Identifier  |                                               |
| Client      | Scottish Power                                |
| Jobnumber   | PB4842                                        |
| Enumerator  | 304111                                        |
| Description |                                               |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Time Segment: (16:45-17:00)  
Showing Analysis Set "A1 - Existing Layout ", Demand Set "D1 - Forecast Background 2023, AM "

The junction diagram reflects the last run of ARCADY.

# Existing Layout - Forecast Background 2023, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 23.29              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 474.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1469.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 402.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1734.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 356.85                            | 362.38                              |                                  |                                        |
| 08:00-08:15  | 2   | 1105.94                           | 1165.76                             |                                  |                                        |
| 08:00-08:15  | 3   | 302.65                            | 311.36                              |                                  |                                        |
| 08:00-08:15  | 4   | 1305.45                           | 1367.16                             |                                  |                                        |
| 08:15-08:30  | 1   | 426.12                            | 432.71                              |                                  |                                        |
| 08:15-08:30  | 2   | 1320.60                           | 1392.03                             |                                  |                                        |
| 08:15-08:30  | 3   | 361.39                            | 371.79                              |                                  |                                        |
| 08:15-08:30  | 4   | 1558.83                           | 1632.52                             |                                  |                                        |
| 08:30-08:45  | 1   | 521.88                            | 529.97                              |                                  |                                        |
| 08:30-08:45  | 2   | 1617.40                           | 1704.88                             |                                  |                                        |
| 08:30-08:45  | 3   | 442.61                            | 455.35                              |                                  |                                        |
| 08:30-08:45  | 4   | 1909.17                           | 1999.42                             |                                  |                                        |
| 08:45-09:00  | 1   | 521.88                            | 529.97                              |                                  |                                        |
| 08:45-09:00  | 2   | 1617.40                           | 1704.88                             |                                  |                                        |
| 08:45-09:00  | 3   | 442.61                            | 455.35                              |                                  |                                        |
| 08:45-09:00  | 4   | 1909.17                           | 1999.42                             |                                  |                                        |
| 09:00-09:15  | 1   | 426.12                            | 432.71                              |                                  |                                        |
| 09:00-09:15  | 2   | 1320.60                           | 1392.03                             |                                  |                                        |
| 09:00-09:15  | 3   | 361.39                            | 371.79                              |                                  |                                        |
| 09:00-09:15  | 4   | 1558.83                           | 1632.52                             |                                  |                                        |
| 09:15-09:30  | 1   | 356.85                            | 362.38                              |                                  |                                        |
| 09:15-09:30  | 2   | 1105.94                           | 1165.76                             |                                  |                                        |
| 09:15-09:30  | 3   | 302.65                            | 311.36                              |                                  |                                        |
| 09:15-09:30  | 4   | 1305.45                           | 1367.16                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      |   | To      |          |         |         |
|------|---|---------|----------|---------|---------|
| From |   | 1       | 2        | 3       | 4       |
|      | 1 | 0.000   | 149.000  | 72.000  | 253.000 |
|      | 2 | 374.000 | 8.000    | 150.000 | 937.000 |
|      | 3 | 67.000  | 292.000  | 0.000   | 43.000  |
|      | 4 | 90.000  | 1295.000 | 276.000 | 73.000  |

## Turning Proportions (Veh) - Junction 8 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.31 | 0.15 | 0.53 |
|      | 2 | 0.25 | 0.01 | 0.10 | 0.64 |
|      | 3 | 0.17 | 0.73 | 0.00 | 0.11 |
|      | 4 | 0.05 | 0.75 | 0.16 | 0.04 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.028 | 1.044 | 1.000 |
|      | 2  | 1.008 | 1.000 | 1.035 | 1.076 |
|      | 3  | 1.016 | 1.018 | 1.000 | 1.122 |
|      | 4  | 1.012 | 1.056 | 1.015 | 1.058 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |      |
|------|----|-----|-----|-----|------|
|      |    | 1   | 2   | 3   | 4    |
| From | 1  | 0.0 | 2.8 | 4.4 | 0.0  |
|      | 2  | 0.8 | 0.0 | 3.5 | 7.6  |
|      | 3  | 1.6 | 1.8 | 0.0 | 12.2 |
|      | 4  | 1.2 | 5.6 | 1.5 | 5.8  |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.90    | 49.09         | 6.64            | E       | 434.95                  | 652.42                        | 208.41                         | 19.17                      | 2.32                                 | 208.42                                   | 19.17                                |
| 2   | 0.87    | 14.81         | 6.37            | B       | 1347.98                 | 2021.96                       | 271.98                         | 8.07                       | 3.02                                 | 272.00                                   | 8.07                                 |
| 3   | 0.92    | 65.81         | 7.56            | F       | 368.88                  | 553.32                        | 226.44                         | 24.55                      | 2.52                                 | 226.46                                   | 24.56                                |
| 4   | 0.88    | 14.00         | 7.10            | B       | 1591.16                 | 2386.73                       | 293.98                         | 7.39                       | 3.27                                 | 294.00                                   | 7.39                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 356.85                | 89.21                   | 354.62              | 397.91             | 1457.22                   | 0.00                       | 989.71            | 464.31                       | 0.361 | 0.00              | 0.56            | 5.650     | A   |
| 2   | 1105.94               | 276.48                  | 1101.16             | 1306.93            | 504.91                    | 0.00                       | 2023.72           | 1843.25                      | 0.546 | 0.00              | 1.19            | 3.882     | A   |
| 3   | 302.65                | 75.66                   | 300.36              | 373.31             | 1232.75                   | 0.00                       | 824.79            | 367.34                       | 0.367 | 0.00              | 0.57            | 6.833     | A   |
| 4   | 1305.45               | 326.36                  | 1300.56             | 978.54             | 554.58                    | 0.00                       | 2364.54           | 2161.37                      | 0.552 | 0.00              | 1.22            | 3.369     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 426.11                | 106.53                  | 424.08              | 475.94             | 1742.59                   | 0.00                       | 817.62            | 464.31                       | 0.521 | 0.56              | 1.07            | 9.101     | A   |
| 2   | 1320.60               | 330.15                  | 1317.16             | 1562.89            | 603.79                    | 0.00                       | 1952.08           | 1843.25                      | 0.677 | 1.19              | 2.05            | 5.640     | A   |
| 3   | 361.39                | 90.35                   | 359.26              | 446.45             | 1474.50                   | 0.00                       | 680.09            | 367.34                       | 0.531 | 0.57              | 1.11            | 11.147    | B   |
| 4   | 1558.84               | 389.71                  | 1555.19             | 1170.41            | 663.35                    | 0.00                       | 2276.91           | 2161.36                      | 0.685 | 1.22              | 2.13            | 4.964     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 521.88                | 130.47                  | 505.00              | 576.65             | 2109.93                   | 0.00                       | 595.95            | 464.31                       | 0.876 | 1.07              | 5.29            | 34.759    | D   |
| 2   | 1617.39               | 404.35                  | 1601.87             | 1887.98            | 726.95                    | 0.00                       | 1862.80           | 1843.25                      | 0.868 | 2.05              | 5.93            | 13.084    | B   |
| 3   | 442.61                | 110.65                  | 423.89              | 541.35             | 1787.48                   | 0.00                       | 492.59            | 367.34                       | 0.899 | 1.11              | 5.79            | 44.174    | E   |
| 4   | 1909.18               | 477.29                  | 1891.50             | 1416.26            | 795.09                    | 0.00                       | 2170.81           | 2161.36                      | 0.879 | 2.13              | 6.55            | 12.189    | B   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 521.88                | 130.47                  | 516.48              | 582.90             | 2133.18                   | 0.00                       | 582.03            | 464.31                       | 0.897 | 5.29              | 6.64            | 49.087    | E   |
| 2   | 1617.39               | 404.35                  | 1615.66             | 1911.69            | 737.95                    | 0.00                       | 1854.86           | 1843.25                      | 0.872 | 5.93              | 6.37            | 14.812    | B   |
| 3   | 442.61                | 110.65                  | 435.52              | 546.97             | 1806.64                   | 0.00                       | 481.23            | 367.34                       | 0.920 | 5.79              | 7.56            | 65.811    | F   |
| 4   | 1909.18               | 477.29                  | 1907.01             | 1433.09            | 809.07                    | 0.00                       | 2159.53           | 2161.36                      | 0.884 | 6.55              | 7.10            | 14.002    | B   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 426.11                | 106.53                  | 447.90              | 486.83             | 1784.31                   | 0.00                       | 792.71            | 464.31                       | 0.538 | 6.64              | 1.19            | 11.075    | B   |
| 2   | 1320.60               | 330.15                  | 1337.33             | 1607.49            | 624.72                    | 0.00                       | 1936.98           | 1843.25                      | 0.682 | 6.37              | 2.19            | 6.164     | A   |
| 3   | 361.39                | 90.35                   | 386.66              | 455.77             | 1506.28                   | 0.00                       | 661.32            | 367.34                       | 0.546 | 7.56              | 1.24            | 14.261    | B   |
| 4   | 1558.84               | 389.71                  | 1578.08             | 1199.88            | 693.06                    | 0.00                       | 2252.89           | 2161.36                      | 0.692 | 7.10              | 2.29            | 5.481     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 356.85                | 89.21                   | 359.31              | 401.40             | 1469.39                   | 0.00                       | 982.40            | 464.31                       | 0.363 | 1.19              | 0.58            | 5.799     | A   |
| 2   | 1105.94               | 276.48                  | 1109.79             | 1318.75            | 509.94                    | 0.00                       | 2020.08           | 1843.25                      | 0.547 | 2.19              | 1.22            | 3.972     | A   |
| 3   | 302.65                | 75.66                   | 305.24              | 376.35             | 1243.39                   | 0.00                       | 818.46            | 367.34                       | 0.370 | 1.24              | 0.59            | 7.048     | A   |
| 4   | 1305.45               | 326.36                  | 1309.61             | 987.45             | 561.18                    | 0.00                       | 2359.20           | 2161.37                      | 0.553 | 2.29              | 1.25            | 3.445     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.09                           | 0.54                                 | 5.650                                  | A                             | A                           |
| 2   | 17.31                          | 1.15                                 | 3.882                                  | A                             | A                           |
| 3   | 8.25                           | 0.55                                 | 6.833                                  | A                             | A                           |
| 4   | 17.79                          | 1.19                                 | 3.369                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.24                          | 1.02                                 | 9.101                                  | A                             | A                           |
| 2   | 29.48                          | 1.97                                 | 5.640                                  | A                             | A                           |
| 3   | 15.68                          | 1.05                                 | 11.147                                 | B                             | B                           |
| 4   | 30.73                          | 2.05                                 | 4.964                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 62.74                          | 4.18                                 | 34.759                                 | D                             | C                           |
| 2   | 77.67                          | 5.18                                 | 13.084                                 | B                             | B                           |
| 3   | 66.18                          | 4.41                                 | 44.174                                 | E                             | D                           |
| 4   | 85.52                          | 5.70                                 | 12.189                                 | B                             | B                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 91.27                          | 6.08                                 | 49.087                                 | E                             | D                           |
| 2   | 93.02                          | 6.20                                 | 14.812                                 | B                             | B                           |
| 3   | 102.04                         | 6.80                                 | 65.811                                 | F                             | E                           |
| 4   | 103.35                         | 6.89                                 | 14.002                                 | B                             | B                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 22.12                          | 1.47                                 | 11.075                                 | B                             | B                           |
| 2   | 35.60                          | 2.37                                 | 6.164                                  | A                             | A                           |
| 3   | 25.02                          | 1.67                                 | 14.261                                 | B                             | B                           |
| 4   | 37.32                          | 2.49                                 | 5.481                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.95                           | 0.60                                 | 5.799                                  | A                             | A                           |
| 2   | 18.89                          | 1.26                                 | 3.972                                  | A                             | A                           |
| 3   | 9.28                           | 0.62                                 | 7.048                                  | A                             | A                           |
| 4   | 19.28                          | 1.29                                 | 3.445                                  | A                             | A                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |



## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 27.14              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 386.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1762.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 345.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1720.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 290.60                            | 292.20                              |                                  |                                        |
| 16:45-17:00  | 2   | 1326.53                           | 1356.20                             |                                  |                                        |
| 16:45-17:00  | 3   | 259.73                            | 262.13                              |                                  |                                        |
| 16:45-17:00  | 4   | 1294.91                           | 1326.10                             |                                  |                                        |
| 17:00-17:15  | 1   | 347.01                            | 348.91                              |                                  |                                        |
| 17:00-17:15  | 2   | 1584.00                           | 1619.43                             |                                  |                                        |
| 17:00-17:15  | 3   | 310.15                            | 313.01                              |                                  |                                        |
| 17:00-17:15  | 4   | 1546.24                           | 1583.49                             |                                  |                                        |
| 17:15-17:30  | 1   | 424.99                            | 427.33                              |                                  |                                        |
| 17:15-17:30  | 2   | 1940.00                           | 1983.39                             |                                  |                                        |
| 17:15-17:30  | 3   | 379.85                            | 383.36                              |                                  |                                        |
| 17:15-17:30  | 4   | 1893.76                           | 1939.37                             |                                  |                                        |
| 17:30-17:45  | 1   | 424.99                            | 427.33                              |                                  |                                        |
| 17:30-17:45  | 2   | 1940.00                           | 1983.39                             |                                  |                                        |
| 17:30-17:45  | 3   | 379.85                            | 383.36                              |                                  |                                        |
| 17:30-17:45  | 4   | 1893.76                           | 1939.37                             |                                  |                                        |
| 17:45-18:00  | 1   | 347.01                            | 348.91                              |                                  |                                        |
| 17:45-18:00  | 2   | 1584.00                           | 1619.43                             |                                  |                                        |
| 17:45-18:00  | 3   | 310.15                            | 313.01                              |                                  |                                        |
| 17:45-18:00  | 4   | 1546.24                           | 1583.49                             |                                  |                                        |
| 18:00-18:15  | 1   | 290.60                            | 292.20                              |                                  |                                        |
| 18:00-18:15  | 2   | 1326.53                           | 1356.20                             |                                  |                                        |
| 18:00-18:15  | 3   | 259.73                            | 262.13                              |                                  |                                        |
| 18:00-18:15  | 4   | 1294.91                           | 1326.10                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 107.000  | 75.000  | 204.000  |
|      | 2  | 192.000 | 3.000    | 172.000 | 1395.000 |
|      | 3  | 61.000  | 199.000  | 0.000   | 85.000   |
|      | 4  | 111.000 | 1330.000 | 220.000 | 59.000   |

## Turning Proportions (Veh) - Junction 8 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.28 | 0.19 | 0.53 |
|      | 2  | 0.11 | 0.00 | 0.10 | 0.79 |
|      | 3  | 0.18 | 0.58 | 0.00 | 0.25 |
|      | 4  | 0.06 | 0.77 | 0.13 | 0.03 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.010 | 1.014 | 1.000 |
|      | 2  | 1.011 | 1.000 | 1.006 | 1.026 |
|      | 3  | 1.000 | 1.016 | 1.000 | 1.000 |
|      | 4  | 1.019 | 1.024 | 1.024 | 1.036 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 1.0 | 1.4 | 0.0 |
|      | 2  | 1.1 | 0.0 | 0.6 | 2.6 |
|      | 3  | 0.0 | 1.6 | 0.0 | 0.0 |
|      | 4  | 1.9 | 2.4 | 2.4 | 3.6 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.60    | 12.94         | 1.50            | B       | 354.20                  | 531.30                        | 72.35                          | 8.17                       | 0.80                                 | 72.36                                    | 8.17                                 |
| 2   | 0.97    | 36.14         | 18.48           | E       | 1616.84                 | 2425.26                       | 579.40                         | 14.33                      | 6.44                                 | 579.43                                   | 14.33                                |
| 3   | 0.98    | 102.35        | 10.71           | F       | 316.58                  | 474.87                        | 269.67                         | 34.07                      | 3.00                                 | 269.68                                   | 34.07                                |
| 4   | 0.77    | 6.20          | 3.21            | A       | 1578.30                 | 2367.45                       | 169.72                         | 4.30                       | 1.89                                 | 169.73                                   | 4.30                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 290.60                | 72.65                   | 289.13              | 272.73             | 1358.53                   | 0.00                       | 1076.18           | 379.92                       | 0.270 | 0.00              | 0.37            | 4.566     | A   |
| 2   | 1326.52               | 331.63                  | 1320.17             | 1229.27            | 418.39                    | 0.00                       | 2151.75           | 1959.58                      | 0.616 | 0.00              | 1.59            | 4.297     | A   |
| 3   | 259.73                | 64.93                   | 257.71              | 350.17             | 1388.39                   | 0.00                       | 766.71            | 370.28                       | 0.339 | 0.00              | 0.51            | 7.044     | A   |
| 4   | 1294.90               | 323.73                  | 1290.94             | 1305.79            | 340.32                    | 0.00                       | 2594.83           | 2466.76                      | 0.499 | 0.00              | 0.99            | 2.753     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 347.01                | 86.75                   | 346.07              | 326.09             | 1624.78                   | 0.00                       | 917.26            | 379.92                       | 0.378 | 0.37              | 0.60            | 6.292     | A   |
| 2   | 1584.00               | 396.00                  | 1578.22             | 1470.25            | 500.59                    | 0.00                       | 2090.46           | 1959.58                      | 0.758 | 1.59              | 3.03            | 6.949     | A   |
| 3   | 310.15                | 77.54                   | 308.08              | 418.80             | 1660.02                   | 0.00                       | 605.06            | 370.28                       | 0.513 | 0.51              | 1.02            | 12.039    | B   |
| 4   | 1546.24               | 386.56                  | 1544.04             | 1561.26            | 406.83                    | 0.00                       | 2540.08           | 2466.76                      | 0.609 | 0.99              | 1.54            | 3.607     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 424.99                | 106.25                  | 421.60              | 391.12             | 1974.63                   | 0.00                       | 708.39            | 379.92                       | 0.600 | 0.60              | 1.45            | 12.409    | B   |
| 2   | 1940.00               | 485.00                  | 1892.49             | 1785.34            | 610.88                    | 0.00                       | 2008.22           | 1959.58                      | 0.966 | 3.03              | 14.91           | 24.657    | C   |
| 3   | 379.85                | 94.96                   | 356.85              | 508.06             | 1995.31                   | 0.00                       | 405.55            | 370.28                       | 0.937 | 1.02              | 6.77            | 58.148    | F   |
| 4   | 1893.75               | 473.44                  | 1887.37             | 1873.80            | 478.37                    | 0.00                       | 2481.20           | 2466.76                      | 0.763 | 1.54              | 3.14            | 5.998     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 424.99                | 106.25                  | 424.80              | 396.41             | 1984.55                   | 0.00                       | 702.48            | 379.92                       | 0.605 | 1.45              | 1.50            | 12.945    | B   |
| 2   | 1940.00               | 485.00                  | 1925.70             | 1795.18            | 614.18                    | 0.00                       | 2005.77           | 1959.58                      | 0.967 | 14.91             | 18.48           | 36.144    | E   |
| 3   | 379.85                | 94.96                   | 364.09              | 512.71             | 2027.17                   | 0.00                       | 386.56            | 370.28                       | 0.983 | 6.77              | 10.71           | 102.349   | F   |
| 4   | 1893.75               | 473.44                  | 1893.46             | 1903.77            | 487.51                    | 0.00                       | 2473.68           | 2466.76                      | 0.766 | 3.14              | 3.21            | 6.197     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 347.01                | 86.75                   | 350.46              | 340.96             | 1655.92                   | 0.00                       | 898.77            | 379.92                       | 0.386 | 1.50              | 0.64            | 6.605     | A   |
| 2   | 1584.00               | 396.00                  | 1644.89             | 1501.23            | 505.15                    | 0.00                       | 2087.08           | 1959.58                      | 0.759 | 18.48             | 3.26            | 9.229     | A   |
| 3   | 310.15                | 77.54                   | 348.00              | 427.25             | 1722.80                   | 0.00                       | 567.64            | 370.28                       | 0.546 | 10.71             | 1.25            | 19.153    | C   |
| 4   | 1546.24               | 386.56                  | 1552.59             | 1626.49            | 444.30                    | 0.00                       | 2509.24           | 2466.76                      | 0.616 | 3.21              | 1.62            | 3.789     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 290.60                | 72.65                   | 291.65              | 275.42             | 1367.41                   | 0.00                       | 1070.90           | 379.92                       | 0.271 | 0.64              | 0.38            | 4.627     | A   |
| 2   | 1326.52               | 331.63                  | 1333.04             | 1237.81            | 421.25                    | 0.00                       | 2149.62           | 1959.58                      | 0.617 | 3.26              | 1.63            | 4.442     | A   |
| 3   | 259.73                | 64.93                   | 262.63              | 352.74             | 1401.55                   | 0.00                       | 758.88            | 370.28                       | 0.342 | 1.25              | 0.53            | 7.294     | A   |
| 4   | 1294.90               | 323.73                  | 1297.37             | 1318.73            | 345.45                    | 0.00                       | 2590.61           | 2466.76                      | 0.500 | 1.62              | 1.01            | 2.788     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.36                           | 0.36                                 | 4.566                                  | A                             | A                           |
| 2   | 22.87                          | 1.52                                 | 4.297                                  | A                             | A                           |
| 3   | 7.29                           | 0.49                                 | 7.044                                  | A                             | A                           |
| 4   | 14.50                          | 0.97                                 | 2.753                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.76                           | 0.58                                 | 6.292                                  | A                             | A                           |
| 2   | 42.79                          | 2.85                                 | 6.949                                  | A                             | A                           |
| 3   | 14.50                          | 0.97                                 | 12.039                                 | B                             | B                           |
| 4   | 22.48                          | 1.50                                 | 3.607                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 20.28                          | 1.35                                 | 12.409                                 | B                             | B                           |
| 2   | 165.90                         | 11.06                                | 24.657                                 | C                             | C                           |
| 3   | 73.08                          | 4.87                                 | 58.148                                 | F                             | E                           |
| 4   | 44.38                          | 2.96                                 | 5.998                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 22.22                          | 1.48                                 | 12.945                                 | B                             | B                           |
| 2   | 253.49                         | 16.90                                | 36.144                                 | E                             | D                           |
| 3   | 133.86                         | 8.92                                 | 102.349                                | F                             | F                           |
| 4   | 47.76                          | 3.18                                 | 6.197                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.96                           | 0.66                                 | 6.605                                  | A                             | A                           |
| 2   | 68.91                          | 4.59                                 | 9.229                                  | A                             | A                           |
| 3   | 32.68                          | 2.18                                 | 19.153                                 | C                             | B                           |
| 4   | 25.19                          | 1.68                                 | 3.789                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.77                           | 0.38                                 | 4.627                                  | A                             | A                           |
| 2   | 25.44                          | 1.70                                 | 4.442                                  | A                             | A                           |
| 3   | 8.26                           | 0.55                                 | 7.294                                  | A                             | A                           |
| 4   | 15.41                          | 1.03                                 | 2.788                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, AM | Forecast Background + EA2 Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 29.71              | D            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 474.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1521.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 402.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1744.00                      | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 356.85                            | 362.38                              |                                  |                                        |
| 08:00-08:15  | 2   | 1145.09                           | 1212.35                             |                                  |                                        |
| 08:00-08:15  | 3   | 302.65                            | 311.36                              |                                  |                                        |
| 08:00-08:15  | 4   | 1312.97                           | 1382.97                             |                                  |                                        |
| 08:15-08:30  | 1   | 426.12                            | 432.71                              |                                  |                                        |
| 08:15-08:30  | 2   | 1367.35                           | 1447.66                             |                                  |                                        |
| 08:15-08:30  | 3   | 361.39                            | 371.79                              |                                  |                                        |
| 08:15-08:30  | 4   | 1567.82                           | 1651.40                             |                                  |                                        |
| 08:30-08:45  | 1   | 521.88                            | 529.97                              |                                  |                                        |
| 08:30-08:45  | 2   | 1674.65                           | 1773.02                             |                                  |                                        |
| 08:30-08:45  | 3   | 442.61                            | 455.35                              |                                  |                                        |
| 08:30-08:45  | 4   | 1920.18                           | 2022.55                             |                                  |                                        |
| 08:45-09:00  | 1   | 521.88                            | 529.97                              |                                  |                                        |
| 08:45-09:00  | 2   | 1674.65                           | 1773.02                             |                                  |                                        |
| 08:45-09:00  | 3   | 442.61                            | 455.35                              |                                  |                                        |
| 08:45-09:00  | 4   | 1920.18                           | 2022.55                             |                                  |                                        |
| 09:00-09:15  | 1   | 426.12                            | 432.71                              |                                  |                                        |
| 09:00-09:15  | 2   | 1367.35                           | 1447.66                             |                                  |                                        |
| 09:00-09:15  | 3   | 361.39                            | 371.79                              |                                  |                                        |
| 09:00-09:15  | 4   | 1567.82                           | 1651.40                             |                                  |                                        |
| 09:15-09:30  | 1   | 356.85                            | 362.38                              |                                  |                                        |
| 09:15-09:30  | 2   | 1145.09                           | 1212.35                             |                                  |                                        |
| 09:15-09:30  | 3   | 302.65                            | 311.36                              |                                  |                                        |
| 09:15-09:30  | 4   | 1312.97                           | 1382.97                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      | To |         |          |         |         |
|------|----|---------|----------|---------|---------|
| From |    | 1       | 2        | 3       | 4       |
|      | 1  | 0.000   | 149.000  | 72.000  | 253.000 |
|      | 2  | 374.000 | 8.000    | 150.000 | 989.000 |
|      | 3  | 67.000  | 292.000  | 0.000   | 43.000  |
|      | 4  | 90.000  | 1305.000 | 276.000 | 73.000  |

## Turning Proportions (Veh) - Junction 8 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.31 | 0.15 | 0.53 |
|      | 2  | 0.25 | 0.01 | 0.10 | 0.65 |
|      | 3  | 0.17 | 0.73 | 0.00 | 0.11 |
|      | 4  | 0.05 | 0.75 | 0.16 | 0.04 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.028 | 1.044 | 1.000 |
|      | 2  | 1.008 | 1.000 | 1.035 | 1.082 |
|      | 3  | 1.016 | 1.018 | 1.000 | 1.122 |
|      | 4  | 1.012 | 1.064 | 1.015 | 1.058 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |      |
|------|----|-----|-----|-----|------|
|      |    | 1   | 2   | 3   | 4    |
| From | 1  | 0.0 | 2.8 | 4.4 | 0.0  |
|      | 2  | 0.8 | 0.0 | 3.5 | 8.2  |
|      | 3  | 1.6 | 1.8 | 0.0 | 12.2 |
|      | 4  | 1.2 | 6.4 | 1.5 | 5.8  |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.91    | 53.68         | 7.27            | F       | 434.95                  | 652.42                        | 222.55                         | 20.47                      | 2.47                                 | 222.56                                   | 20.47                                |
| 2   | 0.91    | 19.67         | 8.64            | C       | 1395.69                 | 2093.54                       | 337.34                         | 9.67                       | 3.75                                 | 337.37                                   | 9.67                                 |
| 3   | 1.00    | 107.15        | 13.20           | F       | 368.88                  | 553.32                        | 331.40                         | 35.94                      | 3.68                                 | 331.42                                   | 35.94                                |
| 4   | 0.89    | 14.80         | 7.52            | B       | 1600.33                 | 2400.49                       | 308.78                         | 7.72                       | 3.43                                 | 308.80                                   | 7.72                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 356.85                | 89.21                   | 354.59              | 397.82             | 1464.54                   | 0.00                       | 980.72            | 455.94                       | 0.364 | 0.00              | 0.57            | 5.729     | A   |
| 2   | 1145.09               | 286.27                  | 1139.88             | 1314.26            | 504.87                    | 0.00                       | 2014.87           | 1840.43                      | 0.568 | 0.00              | 1.30            | 4.089     | A   |
| 3   | 302.65                | 75.66                   | 300.24              | 373.27             | 1271.48                   | 0.00                       | 798.45            | 362.94                       | 0.379 | 0.00              | 0.60            | 7.191     | A   |
| 4   | 1312.98               | 328.24                  | 1307.96             | 1017.30            | 554.40                    | 0.00                       | 2351.12           | 2165.77                      | 0.558 | 0.00              | 1.25            | 3.434     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 426.11                | 106.53                  | 424.00              | 475.75             | 1751.16                   | 0.00                       | 806.98            | 455.94                       | 0.528 | 0.57              | 1.10            | 9.348     | A   |
| 2   | 1367.34               | 341.84                  | 1363.27             | 1571.47            | 603.70                    | 0.00                       | 1943.57           | 1840.43                      | 0.704 | 1.30              | 2.32            | 6.161     | A   |
| 3   | 361.39                | 90.35                   | 358.92              | 446.36             | 1520.61                   | 0.00                       | 648.70            | 362.94                       | 0.557 | 0.60              | 1.22            | 12.318    | B   |
| 4   | 1567.82               | 391.96                  | 1563.99             | 1216.61            | 662.91                    | 0.00                       | 2264.20           | 2165.77                      | 0.692 | 1.25              | 2.21            | 5.114     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 521.88                | 130.47                  | 503.58              | 573.44             | 2112.30                   | 0.00                       | 587.76            | 455.94                       | 0.888 | 1.10              | 5.67            | 36.963    | E   |
| 2   | 1674.65               | 418.66                  | 1652.79             | 1890.11            | 725.77                    | 0.00                       | 1855.47           | 1840.43                      | 0.903 | 2.32              | 7.78            | 16.265    | C   |
| 3   | 442.61                | 110.65                  | 413.51              | 540.40             | 1838.18                   | 0.00                       | 457.66            | 362.94                       | 0.967 | 1.22              | 8.50            | 60.847    | F   |
| 4   | 1920.18               | 480.05                  | 1901.38             | 1467.31            | 784.38                    | 0.00                       | 2166.99           | 2165.77                      | 0.886 | 2.21              | 6.91            | 12.745    | B   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 521.88                | 130.47                  | 515.50              | 580.53             | 2135.38                   | 0.00                       | 573.86            | 455.94                       | 0.909 | 5.67              | 7.27            | 53.681    | F   |
| 2   | 1674.65               | 418.66                  | 1671.21             | 1913.66            | 737.22                    | 0.00                       | 1847.24           | 1840.43                      | 0.907 | 7.78              | 8.64            | 19.668    | C   |
| 3   | 442.61                | 110.65                  | 423.80              | 546.61             | 1861.82                   | 0.00                       | 443.54            | 362.94                       | 0.998 | 8.50              | 13.20           | 107.147   | F   |
| 4   | 1920.18               | 480.05                  | 1917.73             | 1487.42            | 798.19                    | 0.00                       | 2155.90           | 2165.77                      | 0.891 | 6.91              | 7.52            | 14.797    | B   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 426.11                | 106.53                  | 450.12              | 492.30             | 1810.21                   | 0.00                       | 771.77            | 455.94                       | 0.552 | 7.27              | 1.27            | 11.997    | B   |
| 2   | 1367.34               | 341.84                  | 1391.92             | 1633.90            | 626.44                    | 0.00                       | 1927.24           | 1840.43                      | 0.709 | 8.64              | 2.50            | 7.019     | A   |
| 3   | 361.39                | 90.35                   | 408.47              | 456.98             | 1561.37                   | 0.00                       | 624.47            | 362.94                       | 0.579 | 13.20             | 1.43            | 20.271    | C   |
| 4   | 1567.82               | 391.96                  | 1588.15             | 1255.49            | 714.36                    | 0.00                       | 2222.84           | 2165.77                      | 0.705 | 7.52              | 2.44            | 5.846     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 356.85                | 89.21                   | 359.57              | 401.69             | 1477.84                   | 0.00                       | 972.71            | 455.94                       | 0.367 | 1.27              | 0.59            | 5.898     | A   |
| 2   | 1145.09               | 286.27                  | 1149.75             | 1327.19            | 510.22                    | 0.00                       | 2011.01           | 1840.43                      | 0.569 | 2.50              | 1.34            | 4.203     | A   |
| 3   | 302.65                | 75.66                   | 305.86              | 376.53             | 1283.44                   | 0.00                       | 791.29            | 362.94                       | 0.382 | 1.43              | 0.63            | 7.463     | A   |
| 4   | 1312.98               | 328.24                  | 1317.61             | 1027.39            | 561.91                    | 0.00                       | 2345.10           | 2165.77                      | 0.560 | 2.44              | 1.28            | 3.521     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.20                           | 0.55                                 | 5.729                                  | A                             | A                           |
| 2   | 18.85                          | 1.26                                 | 4.089                                  | A                             | A                           |
| 3   | 8.66                           | 0.58                                 | 7.191                                  | A                             | A                           |
| 4   | 18.23                          | 1.22                                 | 3.434                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.63                          | 1.04                                 | 9.348                                  | A                             | A                           |
| 2   | 33.14                          | 2.21                                 | 6.161                                  | A                             | A                           |
| 3   | 17.21                          | 1.15                                 | 12.318                                 | B                             | B                           |
| 4   | 31.79                          | 2.12                                 | 5.114                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 66.33                          | 4.42                                 | 36.963                                 | E                             | D                           |
| 2   | 97.75                          | 6.52                                 | 16.265                                 | C                             | B                           |
| 3   | 88.77                          | 5.92                                 | 60.847                                 | F                             | E                           |
| 4   | 89.52                          | 5.97                                 | 12.745                                 | B                             | B                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 99.05                          | 6.60                                 | 53.681                                 | F                             | D                           |
| 2   | 124.51                         | 8.30                                 | 19.668                                 | C                             | B                           |
| 3   | 165.26                         | 11.02                                | 107.147                                | F                             | F                           |
| 4   | 109.32                         | 7.29                                 | 14.797                                 | B                             | B                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 24.24                          | 1.62                                 | 11.997                                 | B                             | B                           |
| 2   | 42.36                          | 2.82                                 | 7.019                                  | A                             | A                           |
| 3   | 41.65                          | 2.78                                 | 20.271                                 | C                             | C                           |
| 4   | 40.10                          | 2.67                                 | 5.846                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.11                           | 0.61                                 | 5.898                                  | A                             | A                           |
| 2   | 20.73                          | 1.38                                 | 4.203                                  | A                             | A                           |
| 3   | 9.85                           | 0.66                                 | 7.463                                  | A                             | A                           |
| 4   | 19.83                          | 1.32                                 | 3.521                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, PM | Forecast Background + EA2 Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 31.11              | D            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 386.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1773.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 345.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1772.00                      | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 290.60                            | 292.20                              |                                  |                                        |
| 16:45-17:00  | 2   | 1334.81                           | 1372.11                             |                                  |                                        |
| 16:45-17:00  | 3   | 259.73                            | 262.13                              |                                  |                                        |
| 16:45-17:00  | 4   | 1334.05                           | 1373.47                             |                                  |                                        |
| 17:00-17:15  | 1   | 347.01                            | 348.91                              |                                  |                                        |
| 17:00-17:15  | 2   | 1593.89                           | 1638.43                             |                                  |                                        |
| 17:00-17:15  | 3   | 310.15                            | 313.01                              |                                  |                                        |
| 17:00-17:15  | 4   | 1592.99                           | 1640.06                             |                                  |                                        |
| 17:15-17:30  | 1   | 424.99                            | 427.33                              |                                  |                                        |
| 17:15-17:30  | 2   | 1952.11                           | 2006.66                             |                                  |                                        |
| 17:15-17:30  | 3   | 379.85                            | 383.36                              |                                  |                                        |
| 17:15-17:30  | 4   | 1951.01                           | 2008.65                             |                                  |                                        |
| 17:30-17:45  | 1   | 424.99                            | 427.33                              |                                  |                                        |
| 17:30-17:45  | 2   | 1952.11                           | 2006.66                             |                                  |                                        |
| 17:30-17:45  | 3   | 379.85                            | 383.36                              |                                  |                                        |
| 17:30-17:45  | 4   | 1951.01                           | 2008.65                             |                                  |                                        |
| 17:45-18:00  | 1   | 347.01                            | 348.91                              |                                  |                                        |
| 17:45-18:00  | 2   | 1593.89                           | 1638.43                             |                                  |                                        |
| 17:45-18:00  | 3   | 310.15                            | 313.01                              |                                  |                                        |
| 17:45-18:00  | 4   | 1592.99                           | 1640.06                             |                                  |                                        |
| 18:00-18:15  | 1   | 290.60                            | 292.20                              |                                  |                                        |
| 18:00-18:15  | 2   | 1334.81                           | 1372.11                             |                                  |                                        |
| 18:00-18:15  | 3   | 259.73                            | 262.13                              |                                  |                                        |
| 18:00-18:15  | 4   | 1334.05                           | 1373.47                             |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 107.000  | 75.000  | 204.000  |
|      | 2  | 192.000 | 3.000    | 172.000 | 1406.000 |
|      | 3  | 61.000  | 199.000  | 0.000   | 85.000   |
|      | 4  | 111.000 | 1382.000 | 220.000 | 59.000   |

### Turning Proportions (Veh) - Junction 8 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.28 | 0.19 | 0.53 |
|      | 2  | 0.11 | 0.00 | 0.10 | 0.79 |
|      | 3  | 0.18 | 0.58 | 0.00 | 0.25 |
|      | 4  | 0.06 | 0.78 | 0.12 | 0.03 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.010 | 1.014 | 1.000 |
|      | 2  | 1.011 | 1.000 | 1.006 | 1.033 |
|      | 3  | 1.000 | 1.016 | 1.000 | 1.000 |
|      | 4  | 1.019 | 1.031 | 1.024 | 1.036 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 1.0 | 1.4 | 0.0 |
|      | 2  | 1.1 | 0.0 | 0.6 | 3.3 |
|      | 3  | 0.0 | 1.6 | 0.0 | 0.0 |
|      | 4  | 1.9 | 3.1 | 2.4 | 3.6 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.64    | 15.02         | 1.73            | C       | 354.20                  | 531.30                        | 80.17                          | 9.05                       | 0.89                                 | 80.17                                    | 9.05                                 |
| 2   | 0.98    | 41.97         | 21.94           | E       | 1626.94                 | 2440.41                       | 652.87                         | 16.05                      | 7.25                                 | 652.91                                   | 16.05                                |
| 3   | 1.01    | 118.49        | 12.72           | F       | 316.58                  | 474.87                        | 306.41                         | 38.72                      | 3.40                                 | 306.42                                   | 38.72                                |
| 4   | 0.79    | 7.00          | 3.72            | A       | 1626.01                 | 2439.02                       | 190.87                         | 4.70                       | 2.12                                 | 190.89                                   | 4.70                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 290.60                | 72.65                   | 289.08              | 272.70             | 1397.37                   | 0.00                       | 1048.75           | 376.08                       | 0.277 | 0.00              | 0.38            | 4.729     | A   |
| 2   | 1334.81               | 333.70                  | 1328.27             | 1268.14            | 418.32                    | 0.00                       | 2140.14           | 1960.87                      | 0.624 | 0.00              | 1.64            | 4.400     | A   |
| 3   | 259.73                | 64.93                   | 257.67              | 350.12             | 1396.46                   | 0.00                       | 757.59            | 365.39                       | 0.343 | 0.00              | 0.52            | 7.173     | A   |
| 4   | 1334.05               | 333.51                  | 1329.80             | 1313.86            | 340.27                    | 0.00                       | 2581.11           | 2457.68                      | 0.517 | 0.00              | 1.06            | 2.868     | A   |



### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 347.01                | 86.75                   | 345.98              | 326.02             | 1671.18                   | 0.00                       | 884.48            | 376.08                       | 0.392 | 0.38              | 0.64            | 6.673     | A   |
| 2   | 1593.89               | 398.47                  | 1587.73             | 1516.67            | 500.49                    | 0.00                       | 2079.21           | 1960.87                      | 0.767 | 1.64              | 3.18            | 7.234     | A   |
| 3   | 310.15                | 77.54                   | 307.96              | 418.72             | 1669.51                   | 0.00                       | 594.25            | 365.39                       | 0.522 | 0.52              | 1.06            | 12.479    | B   |
| 4   | 1592.99               | 398.25                  | 1590.49             | 1570.75            | 406.71                    | 0.00                       | 2526.71           | 2457.68                      | 0.630 | 1.06              | 1.69            | 3.835     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 424.99                | 106.25                  | 420.89              | 389.72             | 2028.79                   | 0.00                       | 669.85            | 376.08                       | 0.634 | 0.64              | 1.66            | 14.233    | B   |
| 2   | 1952.11               | 488.03                  | 1897.15             | 1839.50            | 610.18                    | 0.00                       | 1997.86           | 1960.87                      | 0.977 | 3.18              | 16.92           | 27.122    | D   |
| 3   | 379.85                | 94.96                   | 353.78              | 507.08             | 2000.25                   | 0.00                       | 396.46            | 365.39                       | 0.958 | 1.06              | 7.58            | 63.855    | F   |
| 4   | 1951.00               | 487.75                  | 1943.24             | 1878.74            | 475.27                    | 0.00                       | 2470.59           | 2457.68                      | 0.790 | 1.69              | 3.63            | 6.730     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 424.99                | 106.25                  | 424.73              | 394.94             | 2038.95                   | 0.00                       | 663.78            | 376.08                       | 0.640 | 1.66              | 1.73            | 15.022    | C   |
| 2   | 1952.11               | 488.03                  | 1932.04             | 1849.55            | 614.12                    | 0.00                       | 1994.96           | 1960.87                      | 0.979 | 16.92             | 21.94           | 41.965    | E   |
| 3   | 379.85                | 94.96                   | 359.29              | 512.13             | 2034.02                   | 0.00                       | 376.22            | 365.39                       | 1.010 | 7.58              | 12.72           | 118.492   | F   |
| 4   | 1951.00               | 487.75                  | 1950.61             | 1910.06            | 483.26                    | 0.00                       | 2464.04           | 2457.68                      | 0.792 | 3.63              | 3.72            | 6.999     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 347.01                | 86.75                   | 351.21              | 343.76             | 1708.37                   | 0.00                       | 862.38            | 376.08                       | 0.402 | 1.73              | 0.68            | 7.098     | A   |
| 2   | 1593.89               | 398.47                  | 1667.87             | 1553.69            | 505.88                    | 0.00                       | 2075.23           | 1960.87                      | 0.768 | 21.94             | 3.44            | 10.410    | B   |
| 3   | 310.15                | 77.54                   | 355.60              | 428.77             | 1744.98                   | 0.00                       | 549.02            | 365.39                       | 0.565 | 12.72             | 1.36            | 22.920    | C   |
| 4   | 1592.99               | 398.25                  | 1600.69             | 1649.15            | 451.43                    | 0.00                       | 2490.09           | 2457.68                      | 0.640 | 3.72              | 1.80            | 4.083     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 290.60                | 72.65                   | 291.77              | 275.56             | 1407.15                   | 0.00                       | 1042.90           | 376.08                       | 0.279 | 0.68              | 0.39            | 4.801     | A   |
| 2   | 1334.81               | 333.70                  | 1341.85             | 1277.54            | 421.39                    | 0.00                       | 2137.87           | 1960.87                      | 0.624 | 3.44              | 1.68            | 4.563     | A   |
| 3   | 259.73                | 64.93                   | 263.01              | 352.85             | 1410.38                   | 0.00                       | 749.26            | 365.39                       | 0.347 | 1.36              | 0.54            | 7.451     | A   |
| 4   | 1334.05               | 333.51                  | 1336.92             | 1327.60            | 345.79                    | 0.00                       | 2576.59           | 2457.68                      | 0.518 | 1.80              | 1.08            | 2.910     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.55                           | 0.37                                 | 4.729                                  | A                             | A                           |
| 2   | 23.54                          | 1.57                                 | 4.400                                  | A                             | A                           |
| 3   | 7.42                           | 0.49                                 | 7.173                                  | A                             | A                           |
| 4   | 15.54                          | 1.04                                 | 2.868                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.27                           | 0.62                                 | 6.673                                  | A                             | A                           |
| 2   | 44.68                          | 2.98                                 | 7.234                                  | A                             | A                           |
| 3   | 14.99                          | 1.00                                 | 12.479                                 | B                             | B                           |
| 4   | 24.56                          | 1.64                                 | 3.835                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 23.00                          | 1.53                                 | 14.233                                 | B                             | B                           |
| 2   | 182.87                         | 12.19                                | 27.122                                 | D                             | C                           |
| 3   | 79.61                          | 5.31                                 | 63.855                                 | F                             | E                           |
| 4   | 50.82                          | 3.39                                 | 6.730                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 25.61                          | 1.71                                 | 15.022                                 | C                             | B                           |
| 2   | 294.96                         | 19.66                                | 41.965                                 | E                             | D                           |
| 3   | 154.93                         | 10.33                                | 118.492                                | F                             | F                           |
| 4   | 55.33                          | 3.69                                 | 6.999                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.74                          | 0.72                                 | 7.098                                  | A                             | A                           |
| 2   | 80.52                          | 5.37                                 | 10.410                                 | B                             | B                           |
| 3   | 41.01                          | 2.73                                 | 22.920                                 | C                             | C                           |
| 4   | 28.04                          | 1.87                                 | 4.083                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.99                           | 0.40                                 | 4.801                                  | A                             | A                           |
| 2   | 26.30                          | 1.75                                 | 4.563                                  | A                             | A                           |
| 3   | 8.45                           | 0.56                                 | 7.451                                  | A                             | A                           |
| 4   | 16.59                          | 1.11                                 | 2.910                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, AM | Forecast Background + EA2 + EA1N Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 32.43              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 474.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1534.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 402.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1747.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 356.85                            | 362.38                              |                                  |                                        |
| 08:00-08:15  | 2   | 1154.88                           | 1226.71                             |                                  |                                        |
| 08:00-08:15  | 3   | 302.65                            | 311.36                              |                                  |                                        |
| 08:00-08:15  | 4   | 1315.23                           | 1389.31                             |                                  |                                        |
| 08:15-08:30  | 1   | 426.12                            | 432.71                              |                                  |                                        |
| 08:15-08:30  | 2   | 1379.03                           | 1464.81                             |                                  |                                        |
| 08:15-08:30  | 3   | 361.39                            | 371.79                              |                                  |                                        |
| 08:15-08:30  | 4   | 1570.52                           | 1658.97                             |                                  |                                        |
| 08:30-08:45  | 1   | 521.88                            | 529.97                              |                                  |                                        |
| 08:30-08:45  | 2   | 1688.97                           | 1794.02                             |                                  |                                        |
| 08:30-08:45  | 3   | 442.61                            | 455.35                              |                                  |                                        |
| 08:30-08:45  | 4   | 1923.48                           | 2031.82                             |                                  |                                        |
| 08:45-09:00  | 1   | 521.88                            | 529.97                              |                                  |                                        |
| 08:45-09:00  | 2   | 1688.97                           | 1794.02                             |                                  |                                        |
| 08:45-09:00  | 3   | 442.61                            | 455.35                              |                                  |                                        |
| 08:45-09:00  | 4   | 1923.48                           | 2031.82                             |                                  |                                        |
| 09:00-09:15  | 1   | 426.12                            | 432.71                              |                                  |                                        |
| 09:00-09:15  | 2   | 1379.03                           | 1464.81                             |                                  |                                        |
| 09:00-09:15  | 3   | 361.39                            | 371.79                              |                                  |                                        |
| 09:00-09:15  | 4   | 1570.52                           | 1658.97                             |                                  |                                        |
| 09:15-09:30  | 1   | 356.85                            | 362.38                              |                                  |                                        |
| 09:15-09:30  | 2   | 1154.88                           | 1226.71                             |                                  |                                        |
| 09:15-09:30  | 3   | 302.65                            | 311.36                              |                                  |                                        |
| 09:15-09:30  | 4   | 1315.23                           | 1389.31                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 149.000  | 72.000  | 253.000  |
|      | 2  | 374.000 | 8.000    | 150.000 | 1002.000 |
|      | 3  | 67.000  | 292.000  | 0.000   | 43.000   |
|      | 4  | 90.000  | 1308.000 | 276.000 | 73.000   |

## Turning Proportions (Veh) - Junction 8 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.31 | 0.15 | 0.53 |
|      | 2  | 0.24 | 0.01 | 0.10 | 0.65 |
|      | 3  | 0.17 | 0.73 | 0.00 | 0.11 |
|      | 4  | 0.05 | 0.75 | 0.16 | 0.04 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.028 | 1.044 | 1.000 |
|      | 2  | 1.008 | 1.000 | 1.035 | 1.087 |
|      | 3  | 1.016 | 1.018 | 1.000 | 1.122 |
|      | 4  | 1.012 | 1.068 | 1.015 | 1.058 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |      |
|------|----|-----|-----|-----|------|
|      |    | 1   | 2   | 3   | 4    |
| From | 1  | 0.0 | 2.8 | 4.4 | 0.0  |
|      | 2  | 0.8 | 0.0 | 3.5 | 8.7  |
|      | 3  | 1.6 | 1.8 | 0.0 | 12.2 |
|      | 4  | 1.2 | 6.8 | 1.5 | 5.8  |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.91    | 55.45         | 7.51            | F       | 434.95                  | 652.42                        | 228.38                         | 21.00                      | 2.54                                 | 228.39                                   | 21.00                                |
| 2   | 0.92    | 21.78         | 9.62            | C       | 1407.63                 | 2111.44                       | 363.27                         | 10.32                      | 4.04                                 | 363.30                                   | 10.32                                |
| 3   | 1.02    | 124.91        | 15.82           | F       | 368.88                  | 553.32                        | 379.63                         | 41.17                      | 4.22                                 | 379.64                                   | 41.17                                |
| 4   | 0.89    | 15.09         | 7.68            | C       | 1603.08                 | 2404.63                       | 314.83                         | 7.86                       | 3.50                                 | 314.85                                   | 7.86                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 356.85                | 89.21                   | 354.57              | 397.79             | 1466.71                   | 0.00                       | 977.12            | 453.45                       | 0.365 | 0.00              | 0.57            | 5.762     | A   |
| 2   | 1154.88               | 288.72                  | 1149.52             | 1316.45            | 504.85                    | 0.00                       | 2008.31           | 1836.38                      | 0.575 | 0.00              | 1.34            | 4.166     | A   |
| 3   | 302.65                | 75.66                   | 300.20              | 373.25             | 1281.12                   | 0.00                       | 790.34            | 361.50                       | 0.383 | 0.00              | 0.61            | 7.308     | A   |
| 4   | 1315.24               | 328.81                  | 1310.17             | 1026.97            | 554.34                    | 0.00                       | 2344.46           | 2164.54                      | 0.561 | 0.00              | 1.27            | 3.464     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 426.11                | 106.53                  | 423.96              | 475.68             | 1753.69                   | 0.00                       | 802.71            | 453.45                       | 0.531 | 0.57              | 1.11            | 9.452     | A   |
| 2   | 1379.04               | 344.76                  | 1374.74             | 1574.01            | 603.66                    | 0.00                       | 1937.27           | 1836.38                      | 0.712 | 1.34              | 2.41            | 6.352     | A   |
| 3   | 361.39                | 90.35                   | 358.79              | 446.33             | 1532.07                   | 0.00                       | 639.05            | 361.50                       | 0.566 | 0.61              | 1.26            | 12.729    | B   |
| 4   | 1570.52               | 392.63                  | 1566.62             | 1228.10            | 662.75                    | 0.00                       | 2257.87           | 2164.54                      | 0.696 | 1.27              | 2.24            | 5.179     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 521.88                | 130.47                  | 502.97              | 572.12             | 2112.04                   | 0.00                       | 584.54            | 453.45                       | 0.893 | 1.11              | 5.83            | 37.889    | E   |
| 2   | 1688.97               | 422.24                  | 1664.50             | 1889.74            | 725.27                    | 0.00                       | 1849.78           | 1836.38                      | 0.913 | 2.41              | 8.53            | 17.516    | C   |
| 3   | 442.61                | 110.65                  | 409.23              | 540.00             | 1849.76                   | 0.00                       | 447.34            | 361.50                       | 0.989 | 1.26              | 9.61            | 67.404    | F   |
| 4   | 1923.49               | 480.87                  | 1904.22             | 1479.05            | 779.96                    | 0.00                       | 2164.35           | 2164.54                      | 0.889 | 2.24              | 7.06            | 12.980    | B   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 521.88                | 130.47                  | 515.18              | 579.31             | 2134.26                   | 0.00                       | 571.11            | 453.45                       | 0.914 | 5.83              | 7.51            | 55.451    | F   |
| 2   | 1688.97               | 422.24                  | 1684.60             | 1912.44            | 736.99                    | 0.00                       | 1841.38           | 1836.38                      | 0.917 | 8.53              | 9.62            | 21.780    | C   |
| 3   | 442.61                | 110.65                  | 417.76              | 546.47             | 1875.13                   | 0.00                       | 432.16            | 361.50                       | 1.024 | 9.61              | 15.82           | 124.909   | F   |
| 4   | 1923.49               | 480.87                  | 1921.00             | 1500.30            | 792.58                    | 0.00                       | 2154.26           | 2164.54                      | 0.893 | 7.06              | 7.68            | 15.092    | C   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 426.11                | 106.53                  | 450.95              | 494.80             | 1820.64                   | 0.00                       | 762.81            | 453.45                       | 0.559 | 7.51              | 1.30            | 12.426    | B   |
| 2   | 1379.04               | 344.76                  | 1407.06             | 1644.53            | 627.07                    | 0.00                       | 1920.51           | 1836.38                      | 0.718 | 9.62              | 2.61            | 7.376     | A   |
| 3   | 361.39                | 90.35                   | 418.64              | 457.47             | 1576.67                   | 0.00                       | 612.45            | 361.50                       | 0.590 | 15.82             | 1.51            | 24.108    | C   |
| 4   | 1570.52               | 392.63                  | 1591.20             | 1271.05            | 724.25                    | 0.00                       | 2208.58           | 2164.54                      | 0.711 | 7.68              | 2.51            | 6.018     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 356.85                | 89.21                   | 359.70              | 401.80             | 1480.51                   | 0.00                       | 968.80            | 453.45                       | 0.368 | 1.30              | 0.59            | 5.939     | A   |
| 2   | 1154.88               | 288.72                  | 1159.83             | 1329.85            | 510.35                    | 0.00                       | 2004.37           | 1836.38                      | 0.576 | 2.61              | 1.37            | 4.288     | A   |
| 3   | 302.65                | 75.66                   | 306.12              | 376.61             | 1293.58                   | 0.00                       | 782.86            | 361.50                       | 0.387 | 1.51              | 0.64            | 7.603     | A   |
| 4   | 1315.24               | 328.81                  | 1320.11             | 1037.50            | 562.20                    | 0.00                       | 2338.17           | 2164.54                      | 0.563 | 2.51              | 1.30            | 3.551     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.24                           | 0.55                                 | 5.762                                  | A                             | A                           |
| 2   | 19.35                          | 1.29                                 | 4.166                                  | A                             | A                           |
| 3   | 8.80                           | 0.59                                 | 7.308                                  | A                             | A                           |
| 4   | 18.41                          | 1.23                                 | 3.464                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.79                          | 1.05                                 | 9.452                                  | A                             | A                           |
| 2   | 34.38                          | 2.29                                 | 6.352                                  | A                             | A                           |
| 3   | 17.74                          | 1.18                                 | 12.729                                 | B                             | B                           |
| 4   | 32.22                          | 2.15                                 | 5.179                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 67.83                          | 4.52                                 | 37.889                                 | E                             | D                           |
| 2   | 105.40                         | 7.03                                 | 17.516                                 | C                             | B                           |
| 3   | 97.43                          | 6.50                                 | 67.404                                 | F                             | E                           |
| 4   | 91.16                          | 6.08                                 | 12.980                                 | B                             | B                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 102.13                         | 6.81                                 | 55.451                                 | F                             | E                           |
| 2   | 137.68                         | 9.18                                 | 21.780                                 | C                             | C                           |
| 3   | 193.11                         | 12.87                                | 124.909                                | F                             | F                           |
| 4   | 111.62                         | 7.44                                 | 15.092                                 | C                             | B                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 25.21                          | 1.68                                 | 12.426                                 | B                             | B                           |
| 2   | 45.11                          | 3.01                                 | 7.376                                  | A                             | A                           |
| 3   | 52.51                          | 3.50                                 | 24.108                                 | C                             | C                           |
| 4   | 41.37                          | 2.76                                 | 6.018                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.17                           | 0.61                                 | 5.939                                  | A                             | A                           |
| 2   | 21.34                          | 1.42                                 | 4.288                                  | A                             | A                           |
| 3   | 10.05                          | 0.67                                 | 7.603                                  | A                             | A                           |
| 4   | 20.05                          | 1.34                                 | 3.551                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |



## Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, PM | Forecast Background + EA2 + EA1N Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 32.30              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 386.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1776.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 345.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1785.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 290.60                            | 292.20                              |                                  |                                        |
| 16:45-17:00  | 2   | 1337.07                           | 1376.56                             |                                  |                                        |
| 16:45-17:00  | 3   | 259.73                            | 262.13                              |                                  |                                        |
| 16:45-17:00  | 4   | 1343.84                           | 1384.61                             |                                  |                                        |
| 17:00-17:15  | 1   | 347.01                            | 348.91                              |                                  |                                        |
| 17:00-17:15  | 2   | 1596.59                           | 1643.75                             |                                  |                                        |
| 17:00-17:15  | 3   | 310.15                            | 313.01                              |                                  |                                        |
| 17:00-17:15  | 4   | 1604.68                           | 1653.36                             |                                  |                                        |
| 17:15-17:30  | 1   | 424.99                            | 427.33                              |                                  |                                        |
| 17:15-17:30  | 2   | 1955.41                           | 2013.17                             |                                  |                                        |
| 17:15-17:30  | 3   | 379.85                            | 383.36                              |                                  |                                        |
| 17:15-17:30  | 4   | 1965.32                           | 2024.95                             |                                  |                                        |
| 17:30-17:45  | 1   | 424.99                            | 427.33                              |                                  |                                        |
| 17:30-17:45  | 2   | 1955.41                           | 2013.17                             |                                  |                                        |
| 17:30-17:45  | 3   | 379.85                            | 383.36                              |                                  |                                        |
| 17:30-17:45  | 4   | 1965.32                           | 2024.95                             |                                  |                                        |
| 17:45-18:00  | 1   | 347.01                            | 348.91                              |                                  |                                        |
| 17:45-18:00  | 2   | 1596.59                           | 1643.75                             |                                  |                                        |
| 17:45-18:00  | 3   | 310.15                            | 313.01                              |                                  |                                        |
| 17:45-18:00  | 4   | 1604.68                           | 1653.36                             |                                  |                                        |
| 18:00-18:15  | 1   | 290.60                            | 292.20                              |                                  |                                        |
| 18:00-18:15  | 2   | 1337.07                           | 1376.56                             |                                  |                                        |
| 18:00-18:15  | 3   | 259.73                            | 262.13                              |                                  |                                        |
| 18:00-18:15  | 4   | 1343.84                           | 1384.61                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 107.000  | 75.000  | 204.000  |
|      | 2  | 192.000 | 3.000    | 172.000 | 1409.000 |
|      | 3  | 61.000  | 199.000  | 0.000   | 85.000   |
|      | 4  | 111.000 | 1395.000 | 220.000 | 59.000   |

## Turning Proportions (Veh) - Junction 8 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.28 | 0.19 | 0.53 |
|      | 2  | 0.11 | 0.00 | 0.10 | 0.79 |
|      | 3  | 0.18 | 0.58 | 0.00 | 0.25 |
|      | 4  | 0.06 | 0.78 | 0.12 | 0.03 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.010 | 1.014 | 1.000 |
|      | 2  | 1.011 | 1.000 | 1.006 | 1.035 |
|      | 3  | 1.000 | 1.016 | 1.000 | 1.000 |
|      | 4  | 1.019 | 1.032 | 1.024 | 1.036 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 1.0 | 1.4 | 0.0 |
|      | 2  | 1.1 | 0.0 | 0.6 | 3.5 |
|      | 3  | 0.0 | 1.6 | 0.0 | 0.0 |
|      | 4  | 1.9 | 3.2 | 2.4 | 3.6 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.65    | 15.61         | 1.80            | C       | 354.20                  | 531.30                        | 82.28                          | 9.29                       | 0.91                                 | 82.29                                    | 9.29                                 |
| 2   | 0.98    | 43.78         | 23.05           | E       | 1629.69                 | 2444.53                       | 676.13                         | 16.60                      | 7.51                                 | 676.17                                   | 16.60                                |
| 3   | 1.02    | 123.17        | 13.31           | F       | 316.58                  | 474.87                        | 317.57                         | 40.13                      | 3.53                                 | 317.58                                   | 40.13                                |
| 4   | 0.80    | 7.21          | 3.86            | A       | 1637.94                 | 2456.92                       | 196.41                         | 4.80                       | 2.18                                 | 196.42                                   | 4.80                                 |

## Main Results for each time segment

Main results: 16:45-17:00

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 290.60                | 72.65                   | 289.07              | 272.69             | 1407.09                   | 0.00                       | 1042.30           | 375.15                       | 0.279 | 0.00              | 0.38            | 4.770     | A   |
| 2   | 1337.06               | 334.27                  | 1330.46             | 1277.85            | 418.31                    | 0.00                       | 2136.82           | 1960.52                      | 0.626 | 0.00              | 1.65            | 4.428     | A   |
| 3   | 259.73                | 64.93                   | 257.66              | 350.11             | 1398.67                   | 0.00                       | 755.04            | 364.23                       | 0.344 | 0.00              | 0.52            | 7.210     | A   |
| 4   | 1343.84               | 335.96                  | 1339.52             | 1316.06            | 340.26                    | 0.00                       | 2579.14           | 2456.85                      | 0.521 | 0.00              | 1.08            | 2.895     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 347.01                | 86.75                   | 345.95              | 326.00             | 1682.78                   | 0.00                       | 876.78            | 375.15                       | 0.396 | 0.38              | 0.65            | 6.767     | A   |
| 2   | 1596.58               | 399.15                  | 1590.31             | 1528.27            | 500.47                    | 0.00                       | 2076.00           | 1960.52                      | 0.769 | 1.65              | 3.22            | 7.317     | A   |
| 3   | 310.15                | 77.54                   | 307.93              | 418.70             | 1672.08                   | 0.00                       | 591.23            | 364.23                       | 0.525 | 0.52              | 1.07            | 12.609    | B   |
| 4   | 1604.67               | 401.17                  | 1602.10             | 1573.34            | 406.67                    | 0.00                       | 2524.80           | 2456.85                      | 0.636 | 1.08              | 1.72            | 3.890     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 424.99                | 106.25                  | 420.69              | 389.30             | 2042.22                   | 0.00                       | 660.87            | 375.15                       | 0.643 | 0.65              | 1.72            | 14.733    | B   |
| 2   | 1955.41               | 488.85                  | 1898.14             | 1852.94            | 609.99                    | 0.00                       | 1994.90           | 1960.52                      | 0.980 | 3.22              | 17.54           | 27.857    | D   |
| 3   | 379.85                | 94.96                   | 352.88              | 506.79             | 2001.33                   | 0.00                       | 394.04            | 364.23                       | 0.964 | 1.07              | 7.81            | 65.499    | F   |
| 4   | 1965.32               | 491.33                  | 1957.18             | 1879.86            | 474.35                    | 0.00                       | 2469.44           | 2456.85                      | 0.796 | 1.72              | 3.76            | 6.919     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 424.99                | 106.25                  | 424.70              | 394.48             | 2052.42                   | 0.00                       | 654.78            | 375.15                       | 0.649 | 1.72              | 1.80            | 15.605    | C   |
| 2   | 1955.41               | 488.85                  | 1933.37             | 1863.02            | 614.10                    | 0.00                       | 1991.87           | 1960.52                      | 0.982 | 17.54             | 23.05           | 43.781    | E   |
| 3   | 379.85                | 94.96                   | 357.87              | 511.94             | 2035.54                   | 0.00                       | 373.53            | 364.23                       | 1.017 | 7.81              | 13.31           | 123.169   | F   |
| 4   | 1965.32               | 491.33                  | 1964.91             | 1911.42            | 481.98                    | 0.00                       | 2463.21           | 2456.85                      | 0.798 | 3.76              | 3.86            | 7.209     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 347.01                | 86.75                   | 351.42              | 344.61             | 1721.69                   | 0.00                       | 853.64            | 375.15                       | 0.407 | 1.80              | 0.69            | 7.231     | A   |
| 2   | 1596.58               | 399.15                  | 1674.79             | 1567.02            | 506.08                    | 0.00                       | 2071.86           | 1960.52                      | 0.771 | 23.05             | 3.50            | 10.821    | B   |
| 3   | 310.15                | 77.54                   | 357.82              | 429.25             | 1751.62                   | 0.00                       | 543.48            | 364.23                       | 0.571 | 13.31             | 1.39            | 24.295    | C   |
| 4   | 1604.67               | 401.17                  | 1612.75             | 1655.90            | 453.55                    | 0.00                       | 2486.44           | 2456.85                      | 0.645 | 3.86              | 1.84            | 4.159     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 290.60                | 72.65                   | 291.81              | 275.60             | 1417.12                   | 0.00                       | 1036.30           | 375.15                       | 0.280 | 0.69              | 0.39            | 4.844     | A   |
| 2   | 1337.06               | 334.27                  | 1344.26             | 1287.49            | 421.43                    | 0.00                       | 2134.52           | 1960.52                      | 0.626 | 3.50              | 1.70            | 4.597     | A   |
| 3   | 259.73                | 64.93                   | 263.14              | 352.88             | 1412.80                   | 0.00                       | 746.56            | 364.23                       | 0.348 | 1.39              | 0.54            | 7.499     | A   |
| 4   | 1343.84               | 335.96                  | 1346.81             | 1330.04            | 345.91                    | 0.00                       | 2574.52           | 2456.85                      | 0.522 | 1.84              | 1.10            | 2.938     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.59                           | 0.37                                 | 4.770                                  | A                             | A                           |
| 2   | 23.73                          | 1.58                                 | 4.428                                  | A                             | A                           |
| 3   | 7.46                           | 0.50                                 | 7.210                                  | A                             | A                           |
| 4   | 15.79                          | 1.05                                 | 2.895                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.40                           | 0.63                                 | 6.767                                  | A                             | A                           |
| 2   | 45.22                          | 3.02                                 | 7.317                                  | A                             | A                           |
| 3   | 15.13                          | 1.01                                 | 12.609                                 | B                             | B                           |
| 4   | 25.08                          | 1.67                                 | 3.890                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 23.74                          | 1.58                                 | 14.733                                 | B                             | B                           |
| 2   | 187.98                         | 12.53                                | 27.857                                 | D                             | C                           |
| 3   | 81.48                          | 5.43                                 | 65.499                                 | F                             | E                           |
| 4   | 52.52                          | 3.50                                 | 6.919                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 26.55                          | 1.77                                 | 15.605                                 | C                             | B                           |
| 2   | 308.04                         | 20.54                                | 43.781                                 | E                             | D                           |
| 3   | 161.08                         | 10.74                                | 123.169                                | F                             | F                           |
| 4   | 57.35                          | 3.82                                 | 7.209                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.95                          | 0.73                                 | 7.231                                  | A                             | A                           |
| 2   | 84.60                          | 5.64                                 | 10.821                                 | B                             | B                           |
| 3   | 43.91                          | 2.93                                 | 24.295                                 | C                             | C                           |
| 4   | 28.78                          | 1.92                                 | 4.159                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.05                           | 0.40                                 | 4.844                                  | A                             | A                           |
| 2   | 26.55                          | 1.77                                 | 4.597                                  | A                             | A                           |
| 3   | 8.51                           | 0.57                                 | 7.499                                  | A                             | A                           |
| 4   | 16.88                          | 1.13                                 | 2.938                                  | A                             | A                           |

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, AM | Background 2019 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 13.07              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 448.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1390.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 380.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1639.00                      | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 337.28                            | 342.50                              |                                  |                                        |
| 08:00-08:15  | 2   | 1046.46                           | 1103.03                             |                                  |                                        |
| 08:00-08:15  | 3   | 286.08                            | 294.35                              |                                  |                                        |
| 08:00-08:15  | 4   | 1233.93                           | 1292.26                             |                                  |                                        |
| 08:15-08:30  | 1   | 402.74                            | 408.98                              |                                  |                                        |
| 08:15-08:30  | 2   | 1249.58                           | 1317.13                             |                                  |                                        |
| 08:15-08:30  | 3   | 341.61                            | 351.48                              |                                  |                                        |
| 08:15-08:30  | 4   | 1473.43                           | 1543.08                             |                                  |                                        |
| 08:30-08:45  | 1   | 493.26                            | 500.90                              |                                  |                                        |
| 08:30-08:45  | 2   | 1530.42                           | 1613.15                             |                                  |                                        |
| 08:30-08:45  | 3   | 418.39                            | 430.47                              |                                  |                                        |
| 08:30-08:45  | 4   | 1804.57                           | 1889.88                             |                                  |                                        |
| 08:45-09:00  | 1   | 493.26                            | 500.90                              |                                  |                                        |
| 08:45-09:00  | 2   | 1530.42                           | 1613.15                             |                                  |                                        |
| 08:45-09:00  | 3   | 418.39                            | 430.47                              |                                  |                                        |
| 08:45-09:00  | 4   | 1804.57                           | 1889.88                             |                                  |                                        |
| 09:00-09:15  | 1   | 402.74                            | 408.98                              |                                  |                                        |
| 09:00-09:15  | 2   | 1249.58                           | 1317.13                             |                                  |                                        |
| 09:00-09:15  | 3   | 341.61                            | 351.48                              |                                  |                                        |
| 09:00-09:15  | 4   | 1473.43                           | 1543.08                             |                                  |                                        |
| 09:15-09:30  | 1   | 337.28                            | 342.50                              |                                  |                                        |
| 09:15-09:30  | 2   | 1046.46                           | 1103.03                             |                                  |                                        |
| 09:15-09:30  | 3   | 286.08                            | 294.35                              |                                  |                                        |
| 09:15-09:30  | 4   | 1233.93                           | 1292.26                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      |   | To      |          |         |         |
|------|---|---------|----------|---------|---------|
| From |   | 1       | 2        | 3       | 4       |
|      | 1 | 0.000   | 141.000  | 68.000  | 239.000 |
|      | 2 | 354.000 | 8.000    | 142.000 | 886.000 |
|      | 3 | 63.000  | 276.000  | 0.000   | 41.000  |
|      | 4 | 85.000  | 1224.000 | 261.000 | 69.000  |

## Turning Proportions (Veh) - Junction 8 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.31 | 0.15 | 0.53 |
|      | 2 | 0.25 | 0.01 | 0.10 | 0.64 |
|      | 3 | 0.17 | 0.73 | 0.00 | 0.11 |
|      | 4 | 0.05 | 0.75 | 0.16 | 0.04 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.028 | 1.044 | 1.000 |
|      | 2  | 1.008 | 1.000 | 1.035 | 1.076 |
|      | 3  | 1.016 | 1.018 | 1.000 | 1.122 |
|      | 4  | 1.012 | 1.056 | 1.015 | 1.058 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |      |
|------|----|-----|-----|-----|------|
|      |    | 1   | 2   | 3   | 4    |
| From | 1  | 0.0 | 2.8 | 4.4 | 0.0  |
|      | 2  | 0.8 | 0.0 | 3.5 | 7.6  |
|      | 3  | 1.6 | 1.8 | 0.0 | 12.2 |
|      | 4  | 1.2 | 5.6 | 1.5 | 5.8  |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.76    | 22.71         | 2.98            | C       | 411.09                  | 616.64                        | 120.89                         | 11.76                      | 1.34                                 | 120.89                                   | 11.76                                |
| 2   | 0.81    | 10.18         | 4.22            | B       | 1275.48                 | 1913.23                       | 201.95                         | 6.33                       | 2.24                                 | 201.97                                   | 6.33                                 |
| 3   | 0.78    | 29.30         | 3.23            | D       | 348.69                  | 523.04                        | 127.62                         | 14.64                      | 1.42                                 | 127.63                                   | 14.64                                |
| 4   | 0.82    | 9.28          | 4.53            | A       | 1503.98                 | 2255.97                       | 212.83                         | 5.66                       | 2.36                                 | 212.85                                   | 5.66                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 337.28                | 84.32                   | 335.37              | 376.33             | 1378.27                   | 0.00                       | 1037.33           | 464.14                       | 0.325 | 0.00              | 0.48            | 5.115     | A   |
| 2   | 1046.46               | 261.62                  | 1042.30             | 1236.24            | 477.40                    | 0.00                       | 2043.71           | 1843.46                      | 0.512 | 0.00              | 1.04            | 3.580     | A   |
| 3   | 286.08                | 71.52                   | 284.13              | 353.20             | 1166.50                   | 0.00                       | 864.38            | 367.41                       | 0.331 | 0.00              | 0.49            | 6.183     | A   |
| 4   | 1233.93               | 308.48                  | 1229.68             | 925.71             | 524.92                    | 0.00                       | 2388.43           | 2160.97                      | 0.517 | 0.00              | 1.06            | 3.095     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 402.74                | 100.69                  | 401.29              | 450.23             | 1648.61                   | 0.00                       | 874.32            | 464.14                       | 0.461 | 0.48              | 0.84            | 7.588     | A   |
| 2   | 1249.58               | 312.39                  | 1246.96             | 1478.79            | 571.10                    | 0.00                       | 1975.82           | 1843.46                      | 0.632 | 1.04              | 1.70            | 4.921     | A   |
| 3   | 341.61                | 85.40                   | 340.09              | 422.49             | 1395.57                   | 0.00                       | 727.28            | 367.41                       | 0.470 | 0.49              | 0.87            | 9.261     | A   |
| 4   | 1473.43               | 368.36                  | 1470.68             | 1107.51            | 628.15                    | 0.00                       | 2305.27           | 2160.97                      | 0.639 | 1.06              | 1.75            | 4.300     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 493.26                | 123.31                  | 485.61              | 548.38             | 2007.69                   | 0.00                       | 657.72            | 464.14                       | 0.750 | 0.84              | 2.75            | 20.100    | C   |
| 2   | 1530.41               | 382.60                  | 1520.92             | 1799.29            | 694.01                    | 0.00                       | 1886.75           | 1843.46                      | 0.811 | 1.70              | 4.07            | 9.599     | A   |
| 3   | 418.39                | 104.60                  | 410.08              | 514.79             | 1700.14                   | 0.00                       | 544.93            | 367.41                       | 0.768 | 0.87              | 2.95            | 25.310    | D   |
| 4   | 1804.58               | 451.14                  | 1794.14             | 1348.30            | 761.93                    | 0.00                       | 2197.51           | 2160.97                      | 0.821 | 1.75              | 4.36            | 8.707     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 493.26                | 123.31                  | 492.34              | 552.34             | 2022.20                   | 0.00                       | 649.02            | 464.14                       | 0.760 | 2.75              | 2.98            | 22.713    | C   |
| 2   | 1530.41               | 382.60                  | 1529.82             | 1813.95            | 700.59                    | 0.00                       | 1882.00           | 1843.46                      | 0.813 | 4.07              | 4.22            | 10.180    | B   |
| 3   | 418.39                | 104.60                  | 417.24              | 518.27             | 1712.14                   | 0.00                       | 537.81            | 367.41                       | 0.778 | 2.95              | 3.23            | 29.298    | D   |
| 4   | 1804.58               | 451.14                  | 1803.90             | 1358.74            | 770.64                    | 0.00                       | 2190.48           | 2160.97                      | 0.824 | 4.36              | 4.53            | 9.276     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 402.74                | 100.69                  | 411.10              | 455.88             | 1669.36                   | 0.00                       | 861.88            | 464.14                       | 0.467 | 2.98              | 0.89            | 8.128     | A   |
| 2   | 1249.58               | 312.39                  | 1259.39             | 1499.90            | 580.56                    | 0.00                       | 1968.99           | 1843.46                      | 0.635 | 4.22              | 1.76            | 5.143     | A   |
| 3   | 341.61                | 85.40                   | 350.83              | 427.42             | 1412.54                   | 0.00                       | 717.21            | 367.41                       | 0.476 | 3.23              | 0.93            | 10.063    | B   |
| 4   | 1473.43               | 368.36                  | 1484.28             | 1122.40            | 640.97                    | 0.00                       | 2294.92           | 2160.97                      | 0.642 | 4.53              | 1.82            | 4.500     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 337.28                | 84.32                   | 338.88              | 379.08             | 1387.79                   | 0.00                       | 1031.62           | 464.14                       | 0.327 | 0.89              | 0.49            | 5.208     | A   |
| 2   | 1046.46               | 261.62                  | 1049.27             | 1245.41            | 481.26                    | 0.00                       | 2040.92           | 1843.46                      | 0.513 | 1.76              | 1.06            | 3.639     | A   |
| 3   | 286.08                | 71.52                   | 287.78              | 355.60             | 1174.94                   | 0.00                       | 859.35            | 367.41                       | 0.333 | 0.93              | 0.50            | 6.318     | A   |
| 4   | 1233.93               | 308.48                  | 1236.88             | 932.72             | 529.99                    | 0.00                       | 2384.34           | 2160.97                      | 0.518 | 1.82              | 1.08            | 3.147     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.94                           | 0.46                                 | 5.115                                  | A                             | A                           |
| 2   | 15.15                          | 1.01                                 | 3.580                                  | A                             | A                           |
| 3   | 7.08                           | 0.47                                 | 6.183                                  | A                             | A                           |
| 4   | 15.49                          | 1.03                                 | 3.095                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.14                          | 0.81                                 | 7.588                                  | A                             | A                           |
| 2   | 24.55                          | 1.64                                 | 4.921                                  | A                             | A                           |
| 3   | 12.47                          | 0.83                                 | 9.261                                  | A                             | A                           |
| 4   | 25.37                          | 1.69                                 | 4.300                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 36.34                          | 2.42                                 | 20.100                                 | C                             | C                           |
| 2   | 55.65                          | 3.71                                 | 9.599                                  | A                             | A                           |
| 3   | 38.06                          | 2.54                                 | 25.310                                 | D                             | C                           |
| 4   | 59.70                          | 3.98                                 | 8.707                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 43.45                          | 2.90                                 | 22.713                                 | C                             | C                           |
| 2   | 62.39                          | 4.16                                 | 10.180                                 | B                             | B                           |
| 3   | 46.86                          | 3.12                                 | 29.298                                 | D                             | C                           |
| 4   | 66.98                          | 4.47                                 | 9.276                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 14.45                          | 0.96                                 | 8.128                                  | A                             | A                           |
| 2   | 27.87                          | 1.86                                 | 5.143                                  | A                             | A                           |
| 3   | 15.32                          | 1.02                                 | 10.063                                 | B                             | B                           |
| 4   | 28.68                          | 1.91                                 | 4.500                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.57                           | 0.50                                 | 5.208                                  | A                             | A                           |
| 2   | 16.34                          | 1.09                                 | 3.639                                  | A                             | A                           |
| 3   | 7.82                           | 0.52                                 | 6.318                                  | A                             | A                           |
| 4   | 16.61                          | 1.11                                 | 3.147                                  | A                             | A                           |

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, PM | Background 2019 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 8        | A12, B1079 | Roundabout    | 1,2,3,4   |                 |                  |                    | 13.44              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name         | Description |
|-----|-----|--------------|-------------|
| 1   | 1   | B1079 (east) |             |
| 2   | 2   | A12 (south)  |             |
| 3   | 3   | B1079 (west) |             |
| 4   | 4   | A12 (north)  |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 2.64                             | 7.58                | 12.53                           | 55.87                | 54.78                             | 15.50                              |           |
| 2   | 7.85                             | 7.85                | 0.00                            | 19.99                | 54.78                             | 13.00                              |           |
| 3   | 2.75                             | 6.94                | 15.00                           | 39.44                | 54.78                             | 17.00                              |           |
| 4   | 7.80                             | 9.58                | 12.57                           | 46.99                | 54.78                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Arm Intercept Adjustments

| Arm | Type       | Reason | Direct Intercept Adjustment (PCU/hr) | Percentage Intercept Adjustment (%) |
|-----|------------|--------|--------------------------------------|-------------------------------------|
| 1   | Percentage |        |                                      | 120.00                              |
| 2   | None       |        |                                      |                                     |
| 3   | None       |        |                                      |                                     |
| 4   | None       |        |                                      |                                     |

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.586       | 1897.438                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.751       | 2518.802                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.588       | 1607.678                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.833       | 2944.205                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 365.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1664.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 326.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1625.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 274.79                            | 276.30                              |                                  |                                        |
| 16:45-17:00  | 2   | 1252.75                           | 1280.78                             |                                  |                                        |
| 16:45-17:00  | 3   | 245.43                            | 247.69                              |                                  |                                        |
| 16:45-17:00  | 4   | 1223.39                           | 1252.86                             |                                  |                                        |
| 17:00-17:15  | 1   | 328.13                            | 329.93                              |                                  |                                        |
| 17:00-17:15  | 2   | 1495.90                           | 1529.37                             |                                  |                                        |
| 17:00-17:15  | 3   | 293.07                            | 295.77                              |                                  |                                        |
| 17:00-17:15  | 4   | 1460.84                           | 1496.03                             |                                  |                                        |
| 17:15-17:30  | 1   | 401.87                            | 404.08                              |                                  |                                        |
| 17:15-17:30  | 2   | 1832.10                           | 1873.09                             |                                  |                                        |
| 17:15-17:30  | 3   | 358.93                            | 362.24                              |                                  |                                        |
| 17:15-17:30  | 4   | 1789.16                           | 1832.26                             |                                  |                                        |
| 17:30-17:45  | 1   | 401.87                            | 404.08                              |                                  |                                        |
| 17:30-17:45  | 2   | 1832.10                           | 1873.09                             |                                  |                                        |
| 17:30-17:45  | 3   | 358.93                            | 362.24                              |                                  |                                        |
| 17:30-17:45  | 4   | 1789.16                           | 1832.26                             |                                  |                                        |
| 17:45-18:00  | 1   | 328.13                            | 329.93                              |                                  |                                        |
| 17:45-18:00  | 2   | 1495.90                           | 1529.37                             |                                  |                                        |
| 17:45-18:00  | 3   | 293.07                            | 295.77                              |                                  |                                        |
| 17:45-18:00  | 4   | 1460.84                           | 1496.03                             |                                  |                                        |
| 18:00-18:15  | 1   | 274.79                            | 276.30                              |                                  |                                        |
| 18:00-18:15  | 2   | 1252.75                           | 1280.78                             |                                  |                                        |
| 18:00-18:15  | 3   | 245.43                            | 247.69                              |                                  |                                        |
| 18:00-18:15  | 4   | 1223.39                           | 1252.86                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 8 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 101.000  | 71.000  | 193.000  |
|      | 2  | 181.000 | 3.000    | 162.000 | 1318.000 |
|      | 3  | 58.000  | 188.000  | 0.000   | 80.000   |
|      | 4  | 105.000 | 1256.000 | 208.000 | 56.000   |

## Turning Proportions (Veh) - Junction 8 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.28 | 0.19 | 0.53 |
|      | 2  | 0.11 | 0.00 | 0.10 | 0.79 |
|      | 3  | 0.18 | 0.58 | 0.00 | 0.25 |
|      | 4  | 0.06 | 0.77 | 0.13 | 0.03 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 8 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.010 | 1.014 | 1.000 |
|      | 2  | 1.011 | 1.000 | 1.006 | 1.026 |
|      | 3  | 1.000 | 1.016 | 1.000 | 1.000 |
|      | 4  | 1.019 | 1.024 | 1.024 | 1.036 |

## Heavy Vehicle Percentages - Junction 8 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 1.0 | 1.4 | 0.0 |
|      | 2  | 1.1 | 0.0 | 0.6 | 2.6 |
|      | 3  | 0.0 | 1.6 | 0.0 | 0.0 |
|      | 4  | 1.9 | 2.4 | 2.4 | 3.6 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.53    | 9.95          | 1.10            | A       | 334.93                  | 502.40                        | 56.84                          | 6.79                       | 0.63                                 | 56.84                                    | 6.79                                 |
| 2   | 0.90    | 17.44         | 8.43            | C       | 1526.92                 | 2290.38                       | 338.58                         | 8.87                       | 3.76                                 | 338.61                                   | 8.87                                 |
| 3   | 0.80    | 38.53         | 3.61            | E       | 299.14                  | 448.71                        | 129.36                         | 17.30                      | 1.44                                 | 129.37                                   | 17.30                                |
| 4   | 0.72    | 5.16          | 2.53            | A       | 1491.13                 | 2236.69                       | 140.26                         | 3.76                       | 1.56                                 | 140.26                                   | 3.76                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 274.79                | 68.70                   | 273.50              | 257.86             | 1283.84                   | 0.00                       | 1120.76           | 379.99                       | 0.245 | 0.00              | 0.32            | 4.243     | A   |
| 2   | 1252.75               | 313.19                  | 1247.34             | 1161.35            | 396.00                    | 0.00                       | 2168.44           | 1958.92                      | 0.578 | 0.00              | 1.35            | 3.886     | A   |
| 3   | 245.43                | 61.36                   | 243.71              | 330.78             | 1312.55                   | 0.00                       | 811.84            | 370.01                       | 0.302 | 0.00              | 0.43            | 6.317     | A   |
| 4   | 1223.39               | 305.85                  | 1219.88             | 1234.44            | 321.83                    | 0.00                       | 2610.05           | 2466.84                      | 0.469 | 0.00              | 0.88            | 2.583     | A   |



### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 328.13                | 82.03                   | 327.39              | 308.43             | 1535.67                   | 0.00                       | 970.46            | 379.99                       | 0.338 | 0.32              | 0.51            | 5.593     | A   |
| 2   | 1495.91               | 373.98                  | 1491.79             | 1389.22            | 473.84                    | 0.00                       | 2110.40           | 1958.92                      | 0.709 | 1.35              | 2.38            | 5.780     | A   |
| 3   | 293.07                | 73.27                   | 291.64              | 395.68             | 1569.95                   | 0.00                       | 658.66            | 370.01                       | 0.445 | 0.43              | 0.79            | 9.771     | A   |
| 4   | 1460.84               | 365.21                  | 1459.07             | 1476.56            | 385.03                    | 0.00                       | 2558.04           | 2466.84                      | 0.571 | 0.88              | 1.32            | 3.270     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 401.87                | 100.47                  | 399.61              | 374.43             | 1874.06                   | 0.00                       | 768.46            | 379.99                       | 0.523 | 0.51              | 1.07            | 9.701     | A   |
| 2   | 1832.11               | 458.03                  | 1810.37             | 1694.72            | 578.94                    | 0.00                       | 2032.04           | 1958.92                      | 0.902 | 2.38              | 7.82            | 14.970    | B   |
| 3   | 358.93                | 89.73                   | 349.63              | 482.39             | 1906.90                   | 0.00                       | 458.14            | 370.01                       | 0.783 | 0.79              | 3.11            | 30.927    | D   |
| 4   | 1789.16               | 447.29                  | 1784.47             | 1792.53            | 464.02                    | 0.00                       | 2493.02           | 2466.84                      | 0.718 | 1.32              | 2.49            | 5.048     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 401.87                | 100.47                  | 401.78              | 378.12             | 1882.54                   | 0.00                       | 763.40            | 379.99                       | 0.526 | 1.07              | 1.10            | 9.949     | A   |
| 2   | 1832.11               | 458.03                  | 1829.65             | 1703.09            | 581.24                    | 0.00                       | 2030.33           | 1958.92                      | 0.902 | 7.82              | 8.43            | 17.442    | C   |
| 3   | 358.93                | 89.73                   | 356.96              | 485.27             | 1925.61                   | 0.00                       | 447.00            | 370.01                       | 0.803 | 3.11              | 3.61            | 38.529    | E   |
| 4   | 1789.16               | 447.29                  | 1788.99             | 1810.90            | 471.68                    | 0.00                       | 2486.71           | 2466.84                      | 0.719 | 2.49              | 2.53            | 5.156     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 328.13                | 82.03                   | 330.42              | 314.09             | 1548.96                   | 0.00                       | 962.56            | 379.99                       | 0.341 | 1.10              | 0.52            | 5.716     | A   |
| 2   | 1495.91               | 373.98                  | 1519.63             | 1402.29            | 477.09                    | 0.00                       | 2107.99           | 1958.92                      | 0.710 | 8.43              | 2.50            | 6.355     | A   |
| 3   | 293.07                | 73.27                   | 304.06              | 399.81             | 1596.91                   | 0.00                       | 642.60            | 370.01                       | 0.456 | 3.61              | 0.86            | 10.965    | B   |
| 4   | 1460.84               | 365.21                  | 1465.56             | 1503.49            | 397.48                    | 0.00                       | 2547.78           | 2466.84                      | 0.573 | 2.53              | 1.36            | 3.340     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 274.79                | 68.70                   | 275.57              | 259.88             | 1290.84                   | 0.00                       | 1116.60           | 379.99                       | 0.246 | 0.52              | 0.33            | 4.284     | A   |
| 2   | 1252.75               | 313.19                  | 1257.21             | 1168.04            | 398.37                    | 0.00                       | 2166.68           | 1958.92                      | 0.578 | 2.50              | 1.38            | 3.978     | A   |
| 3   | 245.43                | 61.36                   | 247.08              | 332.83             | 1322.74                   | 0.00                       | 805.78            | 370.01                       | 0.305 | 0.86              | 0.44            | 6.461     | A   |
| 4   | 1223.39               | 305.85                  | 1225.25             | 1244.36            | 325.47                    | 0.00                       | 2607.06           | 2466.84                      | 0.469 | 1.36              | 0.89            | 2.610     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.72                           | 0.31                                 | 4.243                                  | A                             | A                           |
| 2   | 19.61                          | 1.31                                 | 3.886                                  | A                             | A                           |
| 3   | 6.21                           | 0.41                                 | 6.317                                  | A                             | A                           |
| 4   | 12.88                          | 0.86                                 | 2.583                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.40                           | 0.49                                 | 5.593                                  | A                             | A                           |
| 2   | 34.09                          | 2.27                                 | 5.780                                  | A                             | A                           |
| 3   | 11.28                          | 0.75                                 | 9.771                                  | A                             | A                           |
| 4   | 19.35                          | 1.29                                 | 3.270                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.27                          | 1.02                                 | 9.701                                  | A                             | A                           |
| 2   | 98.90                          | 6.59                                 | 14.970                                 | B                             | B                           |
| 3   | 39.21                          | 2.61                                 | 30.927                                 | D                             | C                           |
| 4   | 35.72                          | 2.38                                 | 5.048                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.32                          | 1.09                                 | 9.949                                  | A                             | A                           |
| 2   | 122.72                         | 8.18                                 | 17.442                                 | C                             | B                           |
| 3   | 51.27                          | 3.42                                 | 38.529                                 | E                             | D                           |
| 4   | 37.80                          | 2.52                                 | 5.156                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.10                           | 0.54                                 | 5.716                                  | A                             | A                           |
| 2   | 41.80                          | 2.79                                 | 6.355                                  | A                             | A                           |
| 3   | 14.53                          | 0.97                                 | 10.965                                 | B                             | B                           |
| 4   | 20.93                          | 1.40                                 | 3.340                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.04                           | 0.34                                 | 4.284                                  | A                             | A                           |
| 2   | 21.46                          | 1.43                                 | 3.978                                  | A                             | A                           |
| 3   | 6.87                           | 0.46                                 | 6.461                                  | A                             | A                           |
| 4   | 13.59                          | 0.91                                 | 2.610                                  | A                             | A                           |

# **East Anglia TWO Offshore Windfarm**

Junction 9

# Junction 9- A12 / B1438 Junction



## Notes

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | B1438       |
| -    | B   | A12 (west)  |
| -    | C   | A12 (north) |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 196  | 162  | 358    |
| B       | 299 | 3    | 1160 | 1462   |
| C       | 245 | 1326 | 0    | 1571   |
| Totals  | 544 | 1525 | 1322 | 3391   |

### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 6 | 7  | 13     |
| B       | 10 | 0 | 68 | 78     |
| C       | 7  | 0 | 0  | 7      |
| Totals  | 17 | 6 | 75 | 98     |

### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 202  | 169  | 371    |
| B       | 309 | 3    | 1228 | 1540   |
| C       | 252 | 1326 | 0    | 1578   |
| Totals  | 561 | 1531 | 1397 | 3489   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 3.0% | 4.1% | 2%      |
| B       | 3.2% | 0.0% | 5.5% | 3%      |
| C       | 2.8% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 3%   | 2%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 16:00PM - 17:00PM

### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 289  | 218  | 507    |
| B       | 222 | 2    | 1328 | 1552   |
| C       | 193 | 1328 | 0    | 1521   |
| Totals  | 415 | 1619 | 1546 | 3580   |

### HGVs

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 2 | 2  | 4      |
| B       | 0 | 0 | 32 | 32     |
| C       | 1 | 0 | 0  | 1      |
| Totals  | 1 | 2 | 34 | 37     |

### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 291  | 220  | 511    |
| B       | 222 | 2    | 1360 | 1584   |
| C       | 194 | 1328 | 0    | 1522   |
| Totals  | 416 | 1621 | 1580 | 3617   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.7% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 2.4% | 1%      |
| C       | 0.5% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 1%   | 0%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 207  | 171  | 379    |
| B       | 316 | 3    | 1227 | 1547   |
| C       | 259 | 1403 | 0    | 1662   |
| Totals  | 575 | 1613 | 1398 | 3587   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 6 | 7  | 14     |
| B       | 11 | 0 | 72 | 83     |
| C       | 7  | 0 | 0  | 7      |
| Totals  | 18 | 6 | 79 | 104    |

### Growth Factored Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 214  | 179  | 392    |
| B       | 327 | 3    | 1299 | 1629   |
| C       | 267 | 1403 | 0    | 1669   |
| Totals  | 593 | 1619 | 1478 | 3691   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 3.0% | 4.1% | 2%      |
| B       | 3.2% | 0.0% | 5.5% | 3%      |
| C       | 2.8% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 3%   | 2%      |

### Growth Factored Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 306  | 231  | 537    |
| B       | 235 | 2    | 1406 | 1643   |
| C       | 204 | 1406 | 0    | 1610   |
| Totals  | 439 | 1714 | 1637 | 3791   |

### Growth Factored HGVs

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 2 | 2  | 4      |
| B       | 0 | 0 | 34 | 34     |
| C       | 1 | 0 | 0  | 1      |
| Totals  | 1 | 2 | 36 | 39     |

### Growth Factored Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 308  | 233  | 541    |
| B       | 235 | 2    | 1440 | 1677   |
| C       | 205 | 1406 | 0    | 1611   |
| Totals  | 440 | 1716 | 1673 | 3830   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.7% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 2.4% | 1%      |
| C       | 0.5% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 1%   | 0%      |

# Junction 9- A12 / B1438 Junction



## Notes

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | B1438       |
| -    | B   | A12 (west)  |
| -    | C   | A12 (north) |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## EA2 Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 42 | 42     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 42 | 42     |

#### HGVs

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 11 | 11     |
| C       | 0 | 11 | 0  | 11     |
| Totals  | 0 | 11 | 11 | 21     |

#### Total

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 52 | 52     |
| C       | 0 | 11 | 0  | 11     |
| Totals  | 0 | 11 | 52 | 63     |

#### %HGV

| From/To | A    | B      | C     | Average |
|---------|------|--------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 20.1% | 7%      |
| C       | 0.0% | 100.0% | 0.0%  | 33%     |
| Average | 0%   | 33%    | 7%    | 13%     |

### PM Peak Traffic

#### Vehicles

| From/To | A | B  | C | Totals |
|---------|---|----|---|--------|
| A       | 0 | 0  | 0 | 0      |
| B       | 0 | 0  | 0 | 0      |
| C       | 0 | 42 | 0 | 42     |
| Totals  | 0 | 42 | 0 | 42     |

#### HGVs

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 11 | 11     |
| C       | 0 | 11 | 0  | 11     |
| Totals  | 0 | 11 | 11 | 21     |

#### Total

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 11 | 11     |
| C       | 0 | 52 | 0  | 52     |
| Totals  | 0 | 52 | 11 | 63     |

#### %HGV

| From/To | A    | B     | C      | Average |
|---------|------|-------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 100.0% | 33%     |
| C       | 0.0% | 20.1% | 0.0%   | 7%      |
| Average | 0%   | 7%    | 33%    | 13%     |

## Forecast Flows + EA2 Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 207  | 171  | 379    |
| B       | 316 | 3    | 1269 | 1588   |
| C       | 259 | 1403 | 0    | 1662   |
| Totals  | 575 | 1613 | 1440 | 3629   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 6  | 7  | 14     |
| B       | 11 | 0  | 82 | 93     |
| C       | 7  | 11 | 0  | 18     |
| Totals  | 18 | 17 | 90 | 125    |

#### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 214  | 179  | 392    |
| B       | 327 | 3    | 1351 | 1681   |
| C       | 267 | 1413 | 0    | 1680   |
| Totals  | 593 | 1630 | 1530 | 3753   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 3.0% | 4.1% | 2%      |
| B       | 3.2% | 0.0% | 6.1% | 3%      |
| C       | 2.8% | 0.7% | 0.0% | 1%      |
| Average | 2%   | 1%   | 3%   | 2%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 306  | 231  | 537    |
| B       | 235 | 2    | 1406 | 1643   |
| C       | 204 | 1448 | 0    | 1652   |
| Totals  | 439 | 1756 | 1637 | 3832   |

#### HGVs

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 2  | 2  | 4      |
| B       | 0 | 0  | 44 | 44     |
| C       | 1 | 11 | 0  | 12     |
| Totals  | 1 | 13 | 46 | 60     |

#### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 308  | 233  | 541    |
| B       | 235 | 2    | 1450 | 1688   |
| C       | 205 | 1458 | 0    | 1664   |
| Totals  | 440 | 1769 | 1683 | 3892   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.7% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 3.1% | 1%      |
| C       | 0.5% | 0.7% | 0.0% | 0%      |
| Average | 0%   | 0%   | 1%   | 1%      |

# Junction 9- A12 / B1438 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | B1438     |
| -    | B   | A12       |
| -    | C   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Thursday 6th June 2019: 08:00AM - 09:00AM

### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 196  | 162  | 358    |
| B       | 299 | 3    | 1160 | 1462   |
| C       | 245 | 1326 | 0    | 1571   |
| Totals  | 544 | 1525 | 1322 | 3391   |

### HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 6 | 7  | 13     |
| B       | 10 | 0 | 68 | 78     |
| C       | 7  | 0 | 0  | 7      |
| Totals  | 17 | 6 | 75 | 98     |

### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 202  | 169  | 371    |
| B       | 309 | 3    | 1228 | 1540   |
| C       | 252 | 1326 | 0    | 1578   |
| Totals  | 561 | 1531 | 1397 | 3489   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 3.0% | 4.1% | 2%      |
| B       | 3.2% | 0.0% | 5.5% | 3%      |
| C       | 2.8% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 3%   | 2%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 16:00PM - 17:00PM

### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 289  | 218  | 507    |
| B       | 222 | 2    | 1328 | 1552   |
| C       | 193 | 1328 | 0    | 1521   |
| Totals  | 415 | 1619 | 1546 | 3580   |

### HGVs

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 2 | 2  | 4      |
| B       | 0 | 0 | 32 | 32     |
| C       | 1 | 0 | 0  | 1      |
| Totals  | 1 | 2 | 34 | 37     |

### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 291  | 220  | 511    |
| B       | 222 | 2    | 1360 | 1584   |
| C       | 194 | 1328 | 0    | 1522   |
| Totals  | 416 | 1621 | 1580 | 3617   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.7% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 2.4% | 1%      |
| C       | 0.5% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 1%   | 0%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 207  | 171  | 379    |
| B       | 316 | 3    | 1227 | 1547   |
| C       | 259 | 1403 | 0    | 1662   |
| Totals  | 575 | 1613 | 1398 | 3587   |

### Growth Factored HGVs

| From/To | A  | B | C  | Totals |
|---------|----|---|----|--------|
| A       | 0  | 6 | 7  | 14     |
| B       | 11 | 0 | 72 | 83     |
| C       | 7  | 0 | 0  | 7      |
| Totals  | 18 | 6 | 79 | 104    |

### Growth Factored Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 214  | 179  | 392    |
| B       | 327 | 3    | 1299 | 1629   |
| C       | 267 | 1403 | 0    | 1669   |
| Totals  | 593 | 1619 | 1478 | 3691   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 3.0% | 4.1% | 2%      |
| B       | 3.2% | 0.0% | 5.5% | 3%      |
| C       | 2.8% | 0.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 3%   | 2%      |

### Growth Factored Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 306  | 231  | 537    |
| B       | 235 | 2    | 1406 | 1643   |
| C       | 204 | 1406 | 0    | 1610   |
| Totals  | 439 | 1714 | 1637 | 3791   |

### Growth Factored HGVs

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 2 | 2  | 4      |
| B       | 0 | 0 | 34 | 34     |
| C       | 1 | 0 | 0  | 1      |
| Totals  | 1 | 2 | 36 | 39     |

### Growth Factored Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 308  | 233  | 541    |
| B       | 235 | 2    | 1440 | 1677   |
| C       | 205 | 1406 | 0    | 1611   |
| Totals  | 440 | 1716 | 1673 | 3830   |

### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.7% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 2.4% | 1%      |
| C       | 0.5% | 0.0% | 0.0% | 0%      |
| Average | 0%   | 0%   | 1%   | 0%      |

# Junction 9- A12 / B1438 Junction



## Notes

| Link | Arm | Road Name |
|------|-----|-----------|
| -    | A   | B1438     |
| -    | B   | A12       |
| -    | C   | A12       |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## EA2 + EA1N Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A | B | C  | Totals |
|---------|---|---|----|--------|
| A       | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 52 | 52     |
| C       | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 52 | 52     |

#### HGVs

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 14 | 14     |
| C       | 0 | 14 | 0  | 14     |
| Totals  | 0 | 14 | 14 | 27     |

#### Total

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 65 | 65     |
| C       | 0 | 14 | 0  | 14     |
| Totals  | 0 | 14 | 65 | 79     |

#### %HGV

| From/To | A    | B      | C     | Average |
|---------|------|--------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 20.7% | 7%      |
| C       | 0.0% | 100.0% | 0.0%  | 33%     |
| Average | 0%   | 33%    | 7%    | 13%     |

### PM Peak Traffic

#### Vehicles

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 52 | 52     |
| C       | 0 | 52 | 0  | 52     |
| Totals  | 0 | 52 | 0  | 52     |

#### HGVs

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 14 | 14     |
| C       | 0 | 14 | 0  | 14     |
| Totals  | 0 | 14 | 14 | 27     |

#### Total

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 0  | 0  | 0      |
| B       | 0 | 0  | 14 | 14     |
| C       | 0 | 65 | 0  | 65     |
| Totals  | 0 | 65 | 14 | 79     |

#### %HGV

| From/To | A    | B     | C      | Average |
|---------|------|-------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 100.0% | 33%     |
| C       | 0.0% | 20.7% | 0.0%   | 7%      |
| Average | 0%   | 7%    | 33%    | 13%     |

## Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 207  | 171  | 379    |
| B       | 316 | 3    | 1279 | 1598   |
| C       | 259 | 1403 | 0    | 1662   |
| Totals  | 575 | 1613 | 1450 | 3639   |

#### HGVs

| From/To | A  | B  | C  | Totals |
|---------|----|----|----|--------|
| A       | 0  | 6  | 7  | 14     |
| B       | 11 | 0  | 85 | 96     |
| C       | 7  | 14 | 0  | 21     |
| Totals  | 18 | 20 | 93 | 131    |

#### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 214  | 179  | 392    |
| B       | 327 | 3    | 1364 | 1694   |
| C       | 267 | 1416 | 0    | 1683   |
| Totals  | 593 | 1633 | 1543 | 3769   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 3.0% | 4.1% | 2%      |
| B       | 3.2% | 0.0% | 6.3% | 3%      |
| C       | 2.8% | 1.0% | 0.0% | 1%      |
| Average | 2%   | 1%   | 3%   | 2%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 306  | 231  | 537    |
| B       | 235 | 2    | 1406 | 1643   |
| C       | 204 | 1458 | 0    | 1662   |
| Totals  | 439 | 1766 | 1637 | 3842   |

#### HGVs

| From/To | A | B  | C  | Totals |
|---------|---|----|----|--------|
| A       | 0 | 2  | 2  | 4      |
| B       | 0 | 0  | 47 | 47     |
| C       | 1 | 14 | 0  | 15     |
| Totals  | 1 | 16 | 49 | 66     |

#### Total

| From/To | A   | B    | C    | Totals |
|---------|-----|------|------|--------|
| A       | 0   | 308  | 233  | 541    |
| B       | 235 | 2    | 1453 | 1691   |
| C       | 205 | 1471 | 0    | 1677   |
| Totals  | 440 | 1782 | 1686 | 3908   |

#### %HGV

| From/To | A    | B    | C    | Average |
|---------|------|------|------|---------|
| A       | 0.0% | 0.7% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 3.3% | 1%      |
| C       | 0.5% | 0.9% | 0.0% | 0%      |
| Average | 0%   | 1%   | 1%   | 1%      |

| Junctions 8                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ARCADY 8 - Roundabout Module                                                                                                                                                |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |

**Filename:** Junction 9 - A12 and B1438.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 18/07/2019 16:32:52

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - » Existing Layout - Background 2019, AM
  - » Existing Layout - Background 2019, PM



## Summary of junction performance

|                                                                      | AM          |           |      |     | PM          |           |      |     |
|----------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| Existing Layout - Background 2019                                    |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.53        | 4.70      | 0.35 | A   | 0.87        | 5.60      | 0.47 | A   |
| Arm 2                                                                | 3.84        | 8.31      | 0.80 | A   | 4.09        | 8.61      | 0.81 | A   |
| Arm 3                                                                | 2.43        | 5.08      | 0.71 | A   | 1.96        | 4.24      | 0.66 | A   |
| Existing Layout - Forecast Background + EA2 + EA1N Construction 2023 |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.63        | 5.27      | 0.39 | A   | 1.14        | 6.93      | 0.53 | A   |
| Arm 2                                                                | 7.24        | 14.59     | 0.89 | B   | 6.45        | 12.95     | 0.87 | B   |
| Arm 3                                                                | 3.27        | 6.44      | 0.77 | A   | 2.82        | 5.56      | 0.74 | A   |
| Existing Layout - Forecast Background + EA2 Construction 2023        |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.63        | 5.24      | 0.39 | A   | 1.12        | 6.81      | 0.53 | A   |
| Arm 2                                                                | 6.79        | 13.74     | 0.88 | B   | 6.29        | 12.65     | 0.87 | B   |
| Arm 3                                                                | 3.22        | 6.36      | 0.77 | A   | 2.72        | 5.41      | 0.73 | A   |
| Existing Layout - Forecast Background 2023                           |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.62        | 5.15      | 0.38 | A   | 1.04        | 6.36      | 0.51 | A   |
| Arm 2                                                                | 5.27        | 10.90     | 0.85 | B   | 5.78        | 11.64     | 0.86 | B   |
| Arm 3                                                                | 3.05        | 6.05      | 0.76 | A   | 2.37        | 4.85      | 0.71 | A   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA2 Construction 2023, AM" model duration: 08:00 - 09:30

"D4 - Forecast Background + EA2 Construction 2023, PM" model duration: 16:45 - 18:15

"D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Background 2019, AM" model duration: 08:00 - 09:30

"D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:32:48

## File summary

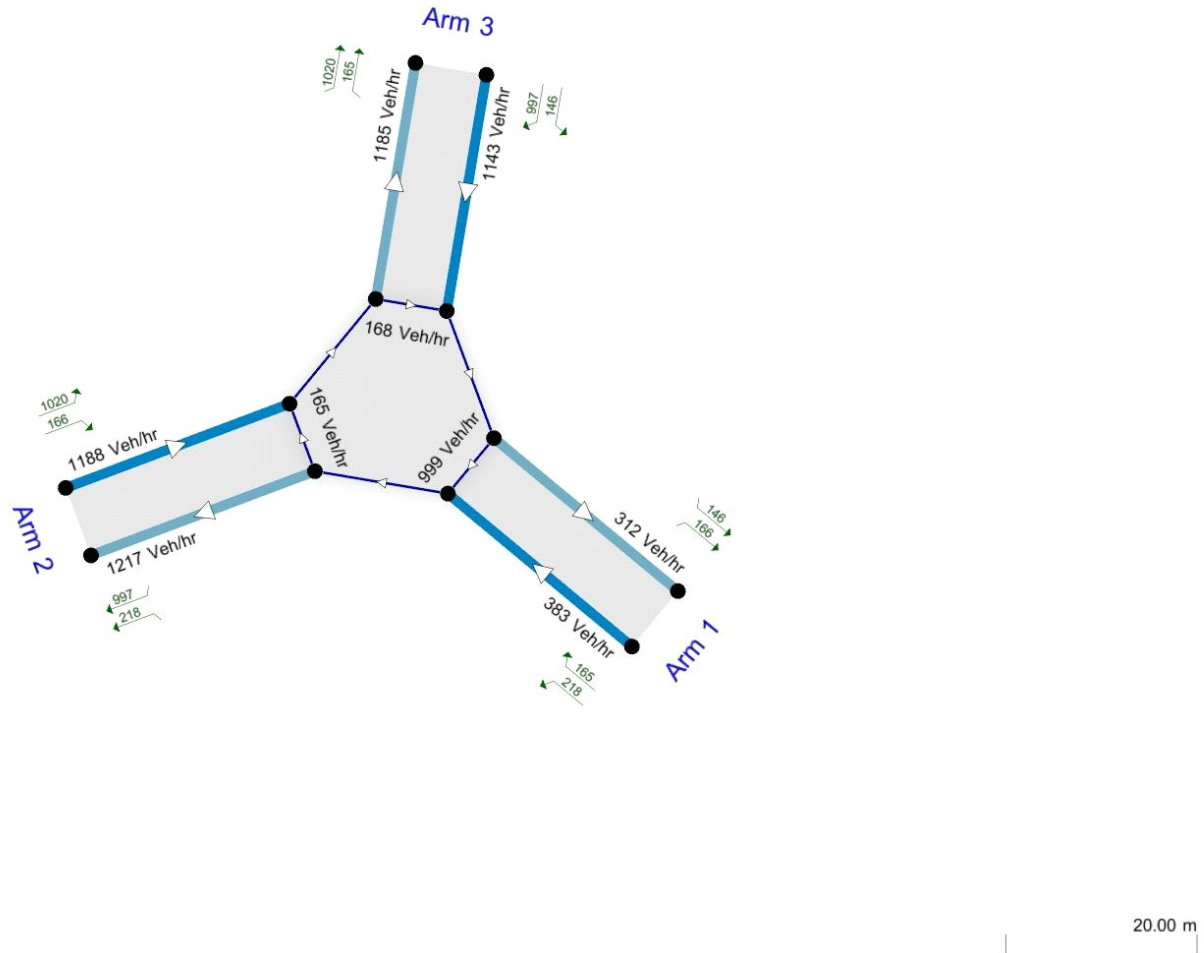
|             |                                              |
|-------------|----------------------------------------------|
| Title       | East Anglia TWO Offshore Windfarm            |
| Location    | Roundabout junction of the A12 and the B1438 |
| Site Number | J9                                           |
| Date        | 25/06/2019                                   |
| Version     | D0.1                                         |
| Status      | Existing Layout                              |
| Identifier  |                                              |
| Client      | Scottish Power                               |
| Jobnumber   | PB4842                                       |
| Enumerator  | 304111                                       |
| Description |                                              |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Time Segment: (16:45-17:00)  
Showing Analysis Set "A1 - Existing Layout", Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 8.14               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 393.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1629.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1670.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 295.87                            | 306.23                              |                                  |                                        |
| 08:00-08:15  | 2   | 1226.40                           | 1288.06                             |                                  |                                        |
| 08:00-08:15  | 3   | 1257.26                           | 1262.89                             |                                  |                                        |
| 08:15-08:30  | 1   | 353.30                            | 365.67                              |                                  |                                        |
| 08:15-08:30  | 2   | 1464.44                           | 1538.07                             |                                  |                                        |
| 08:15-08:30  | 3   | 1501.30                           | 1508.02                             |                                  |                                        |
| 08:30-08:45  | 1   | 432.70                            | 447.85                              |                                  |                                        |
| 08:30-08:45  | 2   | 1793.56                           | 1883.75                             |                                  |                                        |
| 08:30-08:45  | 3   | 1838.70                           | 1846.94                             |                                  |                                        |
| 08:45-09:00  | 1   | 432.70                            | 447.85                              |                                  |                                        |
| 08:45-09:00  | 2   | 1793.56                           | 1883.75                             |                                  |                                        |
| 08:45-09:00  | 3   | 1838.70                           | 1846.94                             |                                  |                                        |
| 09:00-09:15  | 1   | 353.30                            | 365.67                              |                                  |                                        |
| 09:00-09:15  | 2   | 1464.44                           | 1538.07                             |                                  |                                        |
| 09:00-09:15  | 3   | 1501.30                           | 1508.02                             |                                  |                                        |
| 09:15-09:30  | 1   | 295.87                            | 306.23                              |                                  |                                        |
| 09:15-09:30  | 2   | 1226.40                           | 1288.06                             |                                  |                                        |
| 09:15-09:30  | 3   | 1257.26                           | 1262.89                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      | To |         |          |          |
|------|----|---------|----------|----------|
|      |    | 1       | 2        | 3        |
| From | 1  | 0.000   | 214.000  | 179.000  |
|      | 2  | 327.000 | 3.000    | 1299.000 |
|      | 3  | 267.000 | 1403.000 | 0.000    |

## Turning Proportions (Veh) - Junction 9 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.54 | 0.46 |
|      | 2  | 0.20 | 0.00 | 0.80 |
|      | 3  | 0.16 | 0.84 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.030 | 1.041 |
|      | 2  | 1.032 | 1.000 | 1.055 |
|      | 3  | 1.028 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 3.0 | 4.1 |
|      | 2  | 3.2 | 0.0 | 5.5 |
|      | 3  | 2.8 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.38    | 5.15          | 0.62            | A       | 360.62                  | 540.94                        | 37.87                          | 4.20                       | 0.42                                 | 37.87                                    | 4.20                                 |
| 2   | 0.85    | 10.90         | 5.27            | B       | 1494.80                 | 2242.20                       | 252.01                         | 6.74                       | 2.80                                 | 252.03                                   | 6.74                                 |
| 3   | 0.76    | 6.05          | 3.05            | A       | 1532.42                 | 2298.62                       | 164.61                         | 4.30                       | 1.83                                 | 164.62                                   | 4.30                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 295.87                | 73.97                   | 294.78              | 445.51             | 1055.15                   | 0.00                       | 1379.31           | 892.61                       | 0.215 | 0.00              | 0.27            | 3.316     | A   |
| 2   | 1226.40               | 306.60                  | 1221.18             | 1215.67            | 134.27                    | 0.00                       | 2157.29           | 2001.12                      | 0.568 | 0.00              | 1.30            | 3.824     | A   |
| 3   | 1257.26               | 314.31                  | 1253.27             | 1108.06            | 247.38                    | 0.00                       | 2509.50           | 2405.14                      | 0.501 | 0.00              | 1.00            | 2.856     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 353.30                | 88.32                   | 352.86              | 533.00             | 1262.20                   | 0.00                       | 1275.34           | 892.61                       | 0.277 | 0.27              | 0.38            | 3.901     | A   |
| 2   | 1464.44               | 366.11                  | 1461.17             | 1454.34            | 160.72                    | 0.00                       | 2142.11           | 2001.12                      | 0.684 | 1.30              | 2.12            | 5.261     | A   |
| 3   | 1501.29               | 375.32                  | 1499.19             | 1325.89            | 296.00                    | 0.00                       | 2477.39           | 2405.14                      | 0.606 | 1.00              | 1.52            | 3.672     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 432.70                | 108.18                  | 431.78              | 650.67             | 1543.03                   | 0.00                       | 1134.31           | 892.62                       | 0.381 | 0.38              | 0.61            | 5.118     | A   |
| 2   | 1793.57               | 448.39                  | 1781.66             | 1778.14            | 196.66                    | 0.00                       | 2121.50           | 2001.12                      | 0.845 | 2.12              | 5.10            | 10.248    | B   |
| 3   | 1838.70               | 459.67                  | 1832.76             | 1617.39            | 360.92                    | 0.00                       | 2434.50           | 2405.14                      | 0.755 | 1.52              | 3.01            | 5.922     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 432.70                | 108.18                  | 432.68              | 653.84             | 1547.89                   | 0.00                       | 1131.87           | 892.62                       | 0.382 | 0.61              | 0.62            | 5.148     | A   |
| 2   | 1793.57               | 448.39                  | 1792.87             | 1783.50            | 197.07                    | 0.00                       | 2121.26           | 2001.12                      | 0.846 | 5.10              | 5.27            | 10.899    | B   |
| 3   | 1838.70               | 459.67                  | 1838.52             | 1626.75            | 363.20                    | 0.00                       | 2433.00           | 2405.14                      | 0.756 | 3.01              | 3.05            | 6.052     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 353.30                | 88.32                   | 354.21              | 537.41             | 1269.01                   | 0.00                       | 1271.92           | 892.61                       | 0.278 | 0.62              | 0.39            | 3.926     | A   |
| 2   | 1464.44               | 366.11                  | 1476.72             | 1461.88            | 161.33                    | 0.00                       | 2141.76           | 2001.12                      | 0.684 | 5.27              | 2.20            | 5.511     | A   |
| 3   | 1501.29               | 375.32                  | 1507.26             | 1338.91            | 299.15                    | 0.00                       | 2475.30           | 2405.14                      | 0.607 | 3.05              | 1.56            | 3.743     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 295.87                | 73.97                   | 296.32              | 448.24             | 1060.35                   | 0.00                       | 1376.70           | 892.61                       | 0.215 | 0.39              | 0.28            | 3.335     | A   |
| 2   | 1226.40               | 306.60                  | 1229.88             | 1221.71            | 134.96                    | 0.00                       | 2156.88           | 2001.12                      | 0.569 | 2.20              | 1.33            | 3.897     | A   |
| 3   | 1257.26               | 314.31                  | 1259.44             | 1115.69            | 249.15                    | 0.00                       | 2508.33           | 2405.14                      | 0.501 | 1.56              | 1.01            | 2.889     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.00                           | 0.27                                 | 3.316                                  | A                             | A                           |
| 2   | 18.91                          | 1.26                                 | 3.824                                  | A                             | A                           |
| 3   | 14.60                          | 0.97                                 | 2.856                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.61                           | 0.37                                 | 3.901                                  | A                             | A                           |
| 2   | 30.57                          | 2.04                                 | 5.261                                  | A                             | A                           |
| 3   | 22.23                          | 1.48                                 | 3.672                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.93                           | 0.60                                 | 5.118                                  | A                             | A                           |
| 2   | 68.80                          | 4.59                                 | 10.248                                 | B                             | B                           |
| 3   | 42.63                          | 2.84                                 | 5.922                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.21                           | 0.61                                 | 5.148                                  | A                             | A                           |
| 2   | 78.06                          | 5.20                                 | 10.899                                 | B                             | B                           |
| 3   | 45.51                          | 3.03                                 | 6.052                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.93                           | 0.40                                 | 3.926                                  | A                             | A                           |
| 2   | 35.09                          | 2.34                                 | 5.511                                  | A                             | A                           |
| 3   | 24.15                          | 1.61                                 | 3.743                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.19                           | 0.28                                 | 3.335                                  | A                             | A                           |
| 2   | 20.58                          | 1.37                                 | 3.897                                  | A                             | A                           |
| 3   | 15.50                          | 1.03                                 | 2.889                                  | A                             | A                           |

# Existing Layout - Forecast Background 2023, PM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 8.07               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |



## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 541.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1677.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1611.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 407.29                            | 410.50                              |                                  |                                        |
| 16:45-17:00  | 2   | 1262.53                           | 1288.55                             |                                  |                                        |
| 16:45-17:00  | 3   | 1212.85                           | 1213.62                             |                                  |                                        |
| 17:00-17:15  | 1   | 486.35                            | 490.17                              |                                  |                                        |
| 17:00-17:15  | 2   | 1507.59                           | 1538.66                             |                                  |                                        |
| 17:00-17:15  | 3   | 1448.26                           | 1449.18                             |                                  |                                        |
| 17:15-17:30  | 1   | 595.65                            | 600.33                              |                                  |                                        |
| 17:15-17:30  | 2   | 1846.41                           | 1884.46                             |                                  |                                        |
| 17:15-17:30  | 3   | 1773.74                           | 1774.87                             |                                  |                                        |
| 17:30-17:45  | 1   | 595.65                            | 600.33                              |                                  |                                        |
| 17:30-17:45  | 2   | 1846.41                           | 1884.46                             |                                  |                                        |
| 17:30-17:45  | 3   | 1773.74                           | 1774.87                             |                                  |                                        |
| 17:45-18:00  | 1   | 486.35                            | 490.17                              |                                  |                                        |
| 17:45-18:00  | 2   | 1507.59                           | 1538.66                             |                                  |                                        |
| 17:45-18:00  | 3   | 1448.26                           | 1449.18                             |                                  |                                        |
| 18:00-18:15  | 1   | 407.29                            | 410.50                              |                                  |                                        |
| 18:00-18:15  | 2   | 1262.53                           | 1288.55                             |                                  |                                        |
| 18:00-18:15  | 3   | 1212.85                           | 1213.62                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      | To |         |          |          |
|------|----|---------|----------|----------|
|      |    | 1       | 2        | 3        |
| From | 1  | 0.000   | 308.000  | 233.000  |
|      | 2  | 235.000 | 2.000    | 1440.000 |
|      | 3  | 205.000 | 1406.000 | 0.000    |

## Turning Proportions (Veh) - Junction 9 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.57 | 0.43 |
|      | 2  | 0.14 | 0.00 | 0.86 |
|      | 3  | 0.13 | 0.87 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.007 | 1.009 |
|      | 2  | 1.000 | 1.000 | 1.024 |
|      | 3  | 1.005 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 0.7 | 0.9 |
|      | 2  | 0.0 | 0.0 | 2.4 |
|      | 3  | 0.5 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.51    | 6.36          | 1.04            | A       | 496.43                  | 744.65                        | 60.53                          | 4.88                       | 0.67                                 | 60.54                                    | 4.88                                 |
| 2   | 0.86    | 11.64         | 5.78            | B       | 1538.84                 | 2308.26                       | 268.43                         | 6.98                       | 2.98                                 | 268.45                                   | 6.98                                 |
| 3   | 0.71    | 4.85          | 2.37            | A       | 1478.28                 | 2217.41                       | 135.64                         | 3.67                       | 1.51                                 | 135.65                                   | 3.67                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 407.29                | 101.82                  | 405.69              | 330.05             | 1056.91                   | 0.00                       | 1415.56           | 837.23                       | 0.288 | 0.00              | 0.40            | 3.558     | A   |
| 2   | 1262.53               | 315.63                  | 1257.19             | 1287.86            | 174.72                    | 0.00                       | 2199.29           | 2092.97                      | 0.574 | 0.00              | 1.33            | 3.800     | A   |
| 3   | 1212.84               | 303.21                  | 1209.28             | 1254.25            | 177.67                    | 0.00                       | 2568.97           | 2493.06                      | 0.472 | 0.00              | 0.89            | 2.641     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 486.35                | 121.59                  | 485.61              | 394.85             | 1264.30                   | 0.00                       | 1308.61           | 837.23                       | 0.372 | 0.40              | 0.59            | 4.371     | A   |
| 2   | 1507.59               | 376.90                  | 1504.11             | 1540.76            | 209.14                    | 0.00                       | 2179.60           | 2092.97                      | 0.692 | 1.33              | 2.20            | 5.302     | A   |
| 3   | 1448.25               | 362.06                  | 1446.58             | 1500.69            | 212.57                    | 0.00                       | 2546.54           | 2493.06                      | 0.569 | 0.89              | 1.31            | 3.269     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 595.65                | 148.91                  | 593.86              | 482.04             | 1546.60                   | 0.00                       | 1163.02           | 837.22                       | 0.512 | 0.59              | 1.04            | 6.304     | A   |
| 2   | 1846.41               | 461.60                  | 1832.98             | 1884.68            | 255.77                    | 0.00                       | 2152.93           | 2092.97                      | 0.858 | 2.20              | 5.56            | 10.821    | B   |
| 3   | 1773.74               | 443.43                  | 1769.59             | 1829.71            | 259.04                    | 0.00                       | 2516.67           | 2493.06                      | 0.705 | 1.31              | 2.35            | 4.792     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 595.65                | 148.91                  | 595.61              | 484.32             | 1550.16                   | 0.00                       | 1161.19           | 837.22                       | 0.513 | 1.04              | 1.04            | 6.364     | A   |
| 2   | 1846.41               | 461.60                  | 1845.54             | 1889.24            | 256.52                    | 0.00                       | 2152.50           | 2092.97                      | 0.858 | 5.56              | 5.78            | 11.638    | B   |
| 3   | 1773.74               | 443.43                  | 1773.65             | 1841.24            | 260.82                    | 0.00                       | 2515.53           | 2493.06                      | 0.705 | 2.35              | 2.37            | 4.850     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 486.35                | 121.59                  | 488.14              | 398.04             | 1269.40                   | 0.00                       | 1305.98           | 837.23                       | 0.372 | 1.04              | 0.60            | 4.411     | A   |
| 2   | 1507.59               | 376.90                  | 1521.54             | 1547.30            | 210.23                    | 0.00                       | 2178.98           | 2092.97                      | 0.692 | 5.78              | 2.29            | 5.589     | A   |
| 3   | 1448.25               | 362.06                  | 1452.40             | 1516.75            | 215.03                    | 0.00                       | 2544.96           | 2493.06                      | 0.569 | 2.37              | 1.33            | 3.306     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 407.29                | 101.82                  | 408.06              | 331.99             | 1061.53                   | 0.00                       | 1413.18           | 837.23                       | 0.288 | 0.60              | 0.41            | 3.586     | A   |
| 2   | 1262.53               | 315.63                  | 1266.24             | 1293.84            | 175.74                    | 0.00                       | 2198.71           | 2092.97                      | 0.574 | 2.29              | 1.36            | 3.877     | A   |
| 3   | 1212.84               | 303.21                  | 1214.57             | 1263.04            | 178.95                    | 0.00                       | 2568.15           | 2493.06                      | 0.472 | 1.33              | 0.90            | 2.662     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.89                           | 0.39                                 | 3.558                                  | A                             | A                           |
| 2   | 19.34                          | 1.29                                 | 3.800                                  | A                             | A                           |
| 3   | 13.04                          | 0.87                                 | 2.641                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.62                           | 0.57                                 | 4.371                                  | A                             | A                           |
| 2   | 31.68                          | 2.11                                 | 5.302                                  | A                             | A                           |
| 3   | 19.17                          | 1.28                                 | 3.269                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 14.97                          | 1.00                                 | 6.304                                  | A                             | A                           |
| 2   | 74.31                          | 4.95                                 | 10.821                                 | B                             | B                           |
| 3   | 33.73                          | 2.25                                 | 4.792                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.62                          | 1.04                                 | 6.364                                  | A                             | A                           |
| 2   | 85.36                          | 5.69                                 | 11.638                                 | B                             | B                           |
| 3   | 35.40                          | 2.36                                 | 4.850                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.21                           | 0.61                                 | 4.411                                  | A                             | A                           |
| 2   | 36.68                          | 2.45                                 | 5.589                                  | A                             | A                           |
| 3   | 20.54                          | 1.37                                 | 3.306                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.22                           | 0.41                                 | 3.586                                  | A                             | A                           |
| 2   | 21.07                          | 1.40                                 | 3.877                                  | A                             | A                           |
| 3   | 13.76                          | 0.92                                 | 2.662                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, AM | Forecast Background + EA2 Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 9.62               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 393.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1681.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1680.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 295.87                            | 306.23                              |                                  |                                        |
| 08:00-08:15  | 2   | 1265.54                           | 1337.50                             |                                  |                                        |
| 08:00-08:15  | 3   | 1264.79                           | 1279.99                             |                                  |                                        |
| 08:15-08:30  | 1   | 353.30                            | 365.67                              |                                  |                                        |
| 08:15-08:30  | 2   | 1511.18                           | 1597.11                             |                                  |                                        |
| 08:15-08:30  | 3   | 1510.29                           | 1528.44                             |                                  |                                        |
| 08:30-08:45  | 1   | 432.70                            | 447.85                              |                                  |                                        |
| 08:30-08:45  | 2   | 1850.82                           | 1956.05                             |                                  |                                        |
| 08:30-08:45  | 3   | 1849.71                           | 1871.95                             |                                  |                                        |
| 08:45-09:00  | 1   | 432.70                            | 447.85                              |                                  |                                        |
| 08:45-09:00  | 2   | 1850.82                           | 1956.05                             |                                  |                                        |
| 08:45-09:00  | 3   | 1849.71                           | 1871.95                             |                                  |                                        |
| 09:00-09:15  | 1   | 353.30                            | 365.67                              |                                  |                                        |
| 09:00-09:15  | 2   | 1511.18                           | 1597.11                             |                                  |                                        |
| 09:00-09:15  | 3   | 1510.29                           | 1528.44                             |                                  |                                        |
| 09:15-09:30  | 1   | 295.87                            | 306.23                              |                                  |                                        |
| 09:15-09:30  | 2   | 1265.54                           | 1337.50                             |                                  |                                        |
| 09:15-09:30  | 3   | 1264.79                           | 1279.99                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      | To |         |          |
|------|----|---------|----------|
|      | 1  | 2       | 3        |
| From | 1  | 0.000   | 214.000  |
|      | 2  | 327.000 | 3.000    |
|      | 3  | 267.000 | 1413.000 |

## Turning Proportions (Veh) - Junction 9 (for whole period)

|      | To |      |      |
|------|----|------|------|
|      | 1  | 2    | 3    |
| From | 1  | 0.00 | 0.54 |
|      | 2  | 0.19 | 0.00 |
|      | 3  | 0.16 | 0.84 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.030 | 1.041 |
|      | 2  | 1.032 | 1.000 | 1.063 |
|      | 3  | 1.028 | 1.009 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 3.0 | 4.1 |
|      | 2  | 3.2 | 0.0 | 6.3 |
|      | 3  | 2.8 | 0.9 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.39    | 5.24          | 0.63            | A       | 360.62                  | 540.94                        | 38.39                          | 4.26                       | 0.43                                 | 38.39                                    | 4.26                                 |
| 2   | 0.88    | 13.74         | 6.79            | B       | 1542.51                 | 2313.77                       | 302.63                         | 7.85                       | 3.36                                 | 302.66                                   | 7.85                                 |
| 3   | 0.77    | 6.36          | 3.22            | A       | 1541.60                 | 2312.40                       | 171.78                         | 4.46                       | 1.91                                 | 171.79                                   | 4.46                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 295.87                | 73.97                   | 294.78              | 445.43             | 1062.58                   | 0.00                       | 1370.79           | 885.93                       | 0.216 | 0.00              | 0.27            | 3.343     | A   |
| 2   | 1265.54               | 316.39                  | 1259.84             | 1223.09            | 134.26                    | 0.00                       | 2143.86           | 1990.40                      | 0.590 | 0.00              | 1.43            | 4.047     | A   |
| 3   | 1264.79               | 316.20                  | 1260.69             | 1146.79            | 247.32                    | 0.00                       | 2490.84           | 2396.82                      | 0.508 | 0.00              | 1.02            | 2.917     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 353.30                | 88.32                   | 352.85              | 532.89             | 1271.10                   | 0.00                       | 1265.13           | 885.93                       | 0.279 | 0.27              | 0.39            | 3.944     | A   |
| 2   | 1511.18               | 377.80                  | 1507.30             | 1463.24            | 160.71                    | 0.00                       | 2128.78           | 1990.40                      | 0.710 | 1.43              | 2.40            | 5.755     | A   |
| 3   | 1510.29               | 377.57                  | 1508.08             | 1372.12            | 295.90                    | 0.00                       | 2458.99           | 2396.82                      | 0.614 | 1.02              | 1.58            | 3.778     | A   |



### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 432.70                | 108.18                  | 431.75              | 649.83             | 1553.65                   | 0.00                       | 1121.96           | 885.94                       | 0.386 | 0.39              | 0.62            | 5.208     | A   |
| 2   | 1850.81               | 462.70                  | 1834.56             | 1788.76            | 196.65                    | 0.00                       | 2108.30           | 1990.39                      | 0.878 | 2.40              | 6.46            | 12.467    | B   |
| 3   | 1849.71               | 462.43                  | 1843.34             | 1671.07            | 360.15                    | 0.00                       | 2416.88           | 2396.82                      | 0.765 | 1.58              | 3.17            | 6.207     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 432.70                | 108.18                  | 432.68              | 653.72             | 1558.87                   | 0.00                       | 1119.32           | 885.94                       | 0.387 | 0.62              | 0.63            | 5.242     | A   |
| 2   | 1850.81               | 462.70                  | 1849.50             | 1794.48            | 197.07                    | 0.00                       | 2108.06           | 1990.39                      | 0.878 | 6.46              | 6.79            | 13.742    | B   |
| 3   | 1849.71               | 462.43                  | 1849.50             | 1683.50            | 363.08                    | 0.00                       | 2414.95           | 2396.82                      | 0.766 | 3.17              | 3.22            | 6.360     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 353.30                | 88.32                   | 354.24              | 538.35             | 1278.40                   | 0.00                       | 1261.43           | 885.93                       | 0.280 | 0.63              | 0.39            | 3.972     | A   |
| 2   | 1511.18               | 377.80                  | 1528.32             | 1471.29            | 161.35                    | 0.00                       | 2128.42           | 1990.40                      | 0.710 | 6.79              | 2.50            | 6.162     | A   |
| 3   | 1510.29               | 377.57                  | 1516.72             | 1389.64            | 300.03                    | 0.00                       | 2456.29           | 2396.82                      | 0.615 | 3.22              | 1.61            | 3.857     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 295.87                | 73.97                   | 296.33              | 448.37             | 1067.98                   | 0.00                       | 1368.05           | 885.93                       | 0.216 | 0.39              | 0.28            | 3.362     | A   |
| 2   | 1265.54               | 316.39                  | 1269.72             | 1229.34            | 134.97                    | 0.00                       | 2143.45           | 1990.40                      | 0.590 | 2.50              | 1.46            | 4.141     | A   |
| 3   | 1264.79               | 316.20                  | 1267.09             | 1155.43            | 249.26                    | 0.00                       | 2489.57           | 2396.82                      | 0.508 | 1.61              | 1.04            | 2.949     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.03                           | 0.27                                 | 3.343                                  | A                             | A                           |
| 2   | 20.60                          | 1.37                                 | 4.047                                  | A                             | A                           |
| 3   | 14.98                          | 1.00                                 | 2.917                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.67                           | 0.38                                 | 3.944                                  | A                             | A                           |
| 2   | 34.31                          | 2.29                                 | 5.755                                  | A                             | A                           |
| 3   | 22.97                          | 1.53                                 | 3.778                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.09                           | 0.61                                 | 5.208                                  | A                             | A                           |
| 2   | 84.61                          | 5.64                                 | 12.467                                 | B                             | B                           |
| 3   | 44.79                          | 2.99                                 | 6.207                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.38                           | 0.63                                 | 5.242                                  | A                             | A                           |
| 2   | 99.83                          | 6.66                                 | 13.742                                 | B                             | B                           |
| 3   | 48.03                          | 3.20                                 | 6.360                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.00                           | 0.40                                 | 3.972                                  | A                             | A                           |
| 2   | 40.68                          | 2.71                                 | 6.162                                  | A                             | A                           |
| 3   | 25.06                          | 1.67                                 | 3.857                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.23                           | 0.28                                 | 3.362                                  | A                             | A                           |
| 2   | 22.60                          | 1.51                                 | 4.141                                  | A                             | A                           |
| 3   | 15.94                          | 1.06                                 | 2.949                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, PM | Forecast Background + EA2 Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 8.78               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 541.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1687.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1663.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 407.29                            | 410.50                              |                                  |                                        |
| 16:45-17:00  | 2   | 1270.06                           | 1304.99                             |                                  |                                        |
| 16:45-17:00  | 3   | 1251.99                           | 1262.64                             |                                  |                                        |
| 17:00-17:15  | 1   | 486.35                            | 490.17                              |                                  |                                        |
| 17:00-17:15  | 2   | 1516.58                           | 1558.29                             |                                  |                                        |
| 17:00-17:15  | 3   | 1495.00                           | 1507.72                             |                                  |                                        |
| 17:15-17:30  | 1   | 595.65                            | 600.33                              |                                  |                                        |
| 17:15-17:30  | 2   | 1857.42                           | 1908.51                             |                                  |                                        |
| 17:15-17:30  | 3   | 1831.00                           | 1846.57                             |                                  |                                        |
| 17:30-17:45  | 1   | 595.65                            | 600.33                              |                                  |                                        |
| 17:30-17:45  | 2   | 1857.42                           | 1908.51                             |                                  |                                        |
| 17:30-17:45  | 3   | 1831.00                           | 1846.57                             |                                  |                                        |
| 17:45-18:00  | 1   | 486.35                            | 490.17                              |                                  |                                        |
| 17:45-18:00  | 2   | 1516.58                           | 1558.29                             |                                  |                                        |
| 17:45-18:00  | 3   | 1495.00                           | 1507.72                             |                                  |                                        |
| 18:00-18:15  | 1   | 407.29                            | 410.50                              |                                  |                                        |
| 18:00-18:15  | 2   | 1270.06                           | 1304.99                             |                                  |                                        |
| 18:00-18:15  | 3   | 1251.99                           | 1262.64                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      |   | To      |          |          |
|------|---|---------|----------|----------|
| From |   | 1       | 2        | 3        |
|      | 1 | 0.000   | 308.000  | 233.000  |
|      | 2 | 235.000 | 2.000    | 1450.000 |
|      | 3 | 205.000 | 1458.000 | 0.000    |

## Turning Proportions (Veh) - Junction 9 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | 1    | 2    | 3    |
|      | 1 | 0.00 | 0.57 | 0.43 |
|      | 2 | 0.14 | 0.00 | 0.86 |
|      | 3 | 0.12 | 0.88 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.007 | 1.009 |
|      | 2  | 1.000 | 1.000 | 1.032 |
|      | 3  | 1.005 | 1.009 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 0.7 | 0.9 |
|      | 2  | 0.0 | 0.0 | 3.2 |
|      | 3  | 0.5 | 0.9 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.53    | 6.81          | 1.12            | A       | 496.43                  | 744.65                        | 63.56                          | 5.12                       | 0.71                                 | 63.57                                    | 5.12                                 |
| 2   | 0.87    | 12.65         | 6.29            | B       | 1548.03                 | 2322.04                       | 285.54                         | 7.38                       | 3.17                                 | 285.57                                   | 7.38                                 |
| 3   | 0.73    | 5.41          | 2.72            | A       | 1525.99                 | 2288.99                       | 151.66                         | 3.98                       | 1.69                                 | 151.67                                   | 3.98                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 407.29                | 101.82                  | 405.65              | 330.02             | 1095.79                   | 0.00                       | 1390.43           | 829.85                       | 0.293 | 0.00              | 0.41            | 3.649     | A   |
| 2   | 1270.07               | 317.52                  | 1264.57             | 1326.74            | 174.71                    | 0.00                       | 2184.55           | 2080.74                      | 0.581 | 0.00              | 1.37            | 3.890     | A   |
| 3   | 1251.99               | 313.00                  | 1248.15             | 1261.61            | 177.65                    | 0.00                       | 2548.93           | 2475.82                      | 0.491 | 0.00              | 0.96            | 2.759     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 486.35                | 121.59                  | 485.56              | 394.80             | 1310.83                   | 0.00                       | 1278.53           | 829.85                       | 0.380 | 0.41              | 0.61            | 4.535     | A   |
| 2   | 1516.58               | 379.15                  | 1512.91             | 1587.27            | 209.12                    | 0.00                       | 2165.00           | 2080.74                      | 0.701 | 1.37              | 2.29            | 5.490     | A   |
| 3   | 1495.00               | 373.75                  | 1493.09             | 1509.49            | 212.54                    | 0.00                       | 2526.69           | 2475.82                      | 0.592 | 0.96              | 1.44            | 3.477     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 595.65                | 148.91                  | 593.67              | 481.75             | 1603.07                   | 0.00                       | 1126.46           | 829.85                       | 0.529 | 0.61              | 1.10            | 6.730     | A   |
| 2   | 1857.43               | 464.36                  | 1842.52             | 1941.06            | 255.68                    | 0.00                       | 2138.54           | 2080.74                      | 0.869 | 2.29              | 6.02            | 11.615    | B   |
| 3   | 1830.99               | 457.75                  | 1825.97             | 1839.35            | 258.85                    | 0.00                       | 2497.16           | 2475.82                      | 0.733 | 1.44              | 2.69            | 5.323     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 595.65                | 148.91                  | 595.60              | 484.28             | 1607.37                   | 0.00                       | 1124.23           | 829.85                       | 0.530 | 1.10              | 1.12            | 6.809     | A   |
| 2   | 1857.43               | 464.36                  | 1856.34             | 1946.46            | 256.52                    | 0.00                       | 2138.07           | 2080.74                      | 0.869 | 6.02              | 6.29            | 12.651    | B   |
| 3   | 1830.99               | 457.75                  | 1830.86             | 1852.07            | 260.79                    | 0.00                       | 2495.92           | 2475.82                      | 0.734 | 2.69              | 2.72            | 5.411     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 486.35                | 121.59                  | 488.33              | 398.35             | 1316.93                   | 0.00                       | 1275.36           | 829.85                       | 0.381 | 1.12              | 0.62            | 4.586     | A   |
| 2   | 1516.58               | 379.15                  | 1532.20             | 1594.95            | 210.32                    | 0.00                       | 2164.32           | 2080.74                      | 0.701 | 6.29              | 2.39            | 5.832     | A   |
| 3   | 1495.00               | 373.75                  | 1500.03             | 1527.26            | 215.25                    | 0.00                       | 2524.96           | 2475.82                      | 0.592 | 2.72              | 1.47            | 3.528     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 407.29                | 101.82                  | 408.11              | 332.05             | 1100.90                   | 0.00                       | 1387.77           | 829.85                       | 0.293 | 0.62              | 0.42            | 3.679     | A   |
| 2   | 1270.07               | 317.52                  | 1274.01             | 1333.24            | 175.77                    | 0.00                       | 2183.95           | 2080.74                      | 0.582 | 2.39              | 1.40            | 3.974     | A   |
| 3   | 1251.99               | 313.00                  | 1253.96             | 1270.79            | 178.98                    | 0.00                       | 2548.09           | 2475.82                      | 0.491 | 1.47              | 0.97            | 2.785     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.03                           | 0.40                                 | 3.649                                  | A                             | A                           |
| 2   | 19.90                          | 1.33                                 | 3.890                                  | A                             | A                           |
| 3   | 14.05                          | 0.94                                 | 2.759                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.93                           | 0.60                                 | 4.535                                  | A                             | A                           |
| 2   | 32.92                          | 2.19                                 | 5.490                                  | A                             | A                           |
| 3   | 21.00                          | 1.40                                 | 3.477                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.93                          | 1.06                                 | 6.730                                  | A                             | A                           |
| 2   | 79.66                          | 5.31                                 | 11.615                                 | B                             | B                           |
| 3   | 38.42                          | 2.56                                 | 5.323                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.69                          | 1.11                                 | 6.809                                  | A                             | A                           |
| 2   | 92.76                          | 6.18                                 | 12.651                                 | B                             | B                           |
| 3   | 40.65                          | 2.71                                 | 5.411                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.59                           | 0.64                                 | 4.586                                  | A                             | A                           |
| 2   | 38.56                          | 2.57                                 | 5.832                                  | A                             | A                           |
| 3   | 22.67                          | 1.51                                 | 3.528                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.39                           | 0.43                                 | 3.679                                  | A                             | A                           |
| 2   | 21.74                          | 1.45                                 | 3.974                                  | A                             | A                           |
| 3   | 14.88                          | 0.99                                 | 2.785                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, AM | Forecast Background + EA2 + EA1N Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 10.06              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |



# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 393.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1694.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1683.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 295.87                            | 306.23                              |                                  |                                        |
| 08:00-08:15  | 2   | 1275.33                           | 1348.93                             |                                  |                                        |
| 08:00-08:15  | 3   | 1267.05                           | 1284.41                             |                                  |                                        |
| 08:15-08:30  | 1   | 353.30                            | 365.67                              |                                  |                                        |
| 08:15-08:30  | 2   | 1522.87                           | 1610.76                             |                                  |                                        |
| 08:15-08:30  | 3   | 1512.98                           | 1533.71                             |                                  |                                        |
| 08:30-08:45  | 1   | 432.70                            | 447.85                              |                                  |                                        |
| 08:30-08:45  | 2   | 1865.13                           | 1972.76                             |                                  |                                        |
| 08:30-08:45  | 3   | 1853.02                           | 1878.40                             |                                  |                                        |
| 08:45-09:00  | 1   | 432.70                            | 447.85                              |                                  |                                        |
| 08:45-09:00  | 2   | 1865.13                           | 1972.76                             |                                  |                                        |
| 08:45-09:00  | 3   | 1853.02                           | 1878.40                             |                                  |                                        |
| 09:00-09:15  | 1   | 353.30                            | 365.67                              |                                  |                                        |
| 09:00-09:15  | 2   | 1522.87                           | 1610.76                             |                                  |                                        |
| 09:00-09:15  | 3   | 1512.98                           | 1533.71                             |                                  |                                        |
| 09:15-09:30  | 1   | 295.87                            | 306.23                              |                                  |                                        |
| 09:15-09:30  | 2   | 1275.33                           | 1348.93                             |                                  |                                        |
| 09:15-09:30  | 3   | 1267.05                           | 1284.41                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      |   | To      |          |          |
|------|---|---------|----------|----------|
| From |   | 1       | 2        | 3        |
|      | 1 | 0.000   | 214.000  | 179.000  |
|      | 2 | 327.000 | 3.000    | 1364.000 |
|      | 3 | 267.000 | 1416.000 | 0.000    |

## Turning Proportions (Veh) - Junction 9 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | 1    | 2    | 3    |
|      | 1 | 0.00 | 0.54 | 0.46 |
|      | 2 | 0.19 | 0.00 | 0.81 |
|      | 3 | 0.16 | 0.84 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.030 | 1.041 |
|      | 2  | 1.032 | 1.000 | 1.064 |
|      | 3  | 1.028 | 1.011 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 3.0 | 4.1 |
|      | 2  | 3.2 | 0.0 | 6.4 |
|      | 3  | 2.8 | 1.1 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.39    | 5.27          | 0.63            | A       | 360.62                  | 540.94                        | 38.52                          | 4.27                       | 0.43                                 | 38.53                                    | 4.27                                 |
| 2   | 0.89    | 14.59         | 7.24            | B       | 1554.44                 | 2331.67                       | 316.93                         | 8.16                       | 3.52                                 | 316.96                                   | 8.16                                 |
| 3   | 0.77    | 6.44          | 3.27            | A       | 1544.35                 | 2316.52                       | 173.70                         | 4.50                       | 1.93                                 | 173.72                                   | 4.50                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 295.87                | 73.97                   | 294.77              | 445.42             | 1064.81                   | 0.00                       | 1368.59           | 884.37                       | 0.216 | 0.00              | 0.27            | 3.349     | A   |
| 2   | 1275.33               | 318.83                  | 1269.51             | 1225.33            | 134.26                    | 0.00                       | 2142.13           | 1989.20                      | 0.595 | 0.00              | 1.45            | 4.099     | A   |
| 3   | 1267.05               | 316.76                  | 1262.92             | 1156.47            | 247.31                    | 0.00                       | 2486.72           | 2394.96                      | 0.510 | 0.00              | 1.03            | 2.932     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 353.30                | 88.32                   | 352.85              | 532.86             | 1273.77                   | 0.00                       | 1262.50           | 884.37                       | 0.280 | 0.27              | 0.39            | 3.956     | A   |
| 2   | 1522.87               | 380.72                  | 1518.83             | 1465.91            | 160.71                    | 0.00                       | 2127.07           | 1989.20                      | 0.716 | 1.45              | 2.47            | 5.878     | A   |
| 3   | 1512.98               | 378.24                  | 1510.75             | 1383.67            | 295.88                    | 0.00                       | 2454.93           | 2394.96                      | 0.616 | 1.03              | 1.59            | 3.802     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 432.70                | 108.18                  | 431.75              | 649.58             | 1556.84                   | 0.00                       | 1118.78           | 884.38                       | 0.387 | 0.39              | 0.62            | 5.232     | A   |
| 2   | 1865.13               | 466.28                  | 1847.57             | 1791.95            | 196.65                    | 0.00                       | 2106.60           | 1989.20                      | 0.885 | 2.47              | 6.86            | 13.090    | B   |
| 3   | 1853.01               | 463.25                  | 1846.51             | 1684.31            | 359.92                    | 0.00                       | 2413.02           | 2394.96                      | 0.768 | 1.59              | 3.21            | 6.284     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 432.70                | 108.18                  | 432.68              | 653.67             | 1562.16                   | 0.00                       | 1116.09           | 884.38                       | 0.388 | 0.62              | 0.63            | 5.267     | A   |
| 2   | 1865.13               | 466.28                  | 1863.58             | 1797.77            | 197.07                    | 0.00                       | 2106.36           | 1989.20                      | 0.885 | 6.86              | 7.24            | 14.592    | B   |
| 3   | 1853.01               | 463.25                  | 1852.79             | 1697.62            | 363.04                    | 0.00                       | 2410.98           | 2394.96                      | 0.769 | 3.21              | 3.27            | 6.443     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 353.30                | 88.32                   | 354.25              | 538.63             | 1281.20                   | 0.00                       | 1258.73           | 884.37                       | 0.281 | 0.63              | 0.39            | 3.985     | A   |
| 2   | 1522.87               | 380.72                  | 1541.52             | 1474.10            | 161.35                    | 0.00                       | 2126.71           | 1989.20                      | 0.716 | 7.24              | 2.58            | 6.341     | A   |
| 3   | 1512.98               | 378.24                  | 1519.54             | 1402.58            | 300.30                    | 0.00                       | 2452.04           | 2394.96                      | 0.617 | 3.27              | 1.63            | 3.888     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 295.87                | 73.97                   | 296.33              | 448.41             | 1070.26                   | 0.00                       | 1365.82           | 884.37                       | 0.217 | 0.39              | 0.28            | 3.366     | A   |
| 2   | 1275.33               | 318.83                  | 1279.70             | 1231.62            | 134.97                    | 0.00                       | 2141.73           | 1989.20                      | 0.595 | 2.58              | 1.49            | 4.198     | A   |
| 3   | 1267.05               | 316.76                  | 1269.37             | 1165.37            | 249.29                    | 0.00                       | 2485.42           | 2394.96                      | 0.510 | 1.63              | 1.05            | 2.965     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.03                           | 0.27                                 | 3.349                                  | A                             | A                           |
| 2   | 21.01                          | 1.40                                 | 4.099                                  | A                             | A                           |
| 3   | 15.09                          | 1.01                                 | 2.932                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.69                           | 0.38                                 | 3.956                                  | A                             | A                           |
| 2   | 35.26                          | 2.35                                 | 5.878                                  | A                             | A                           |
| 3   | 23.17                          | 1.54                                 | 3.802                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.13                           | 0.61                                 | 5.232                                  | A                             | A                           |
| 2   | 89.05                          | 5.94                                 | 13.090                                 | B                             | B                           |
| 3   | 45.37                          | 3.02                                 | 6.284                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.42                           | 0.63                                 | 5.267                                  | A                             | A                           |
| 2   | 106.28                         | 7.09                                 | 14.592                                 | B                             | B                           |
| 3   | 48.71                          | 3.25                                 | 6.443                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.02                           | 0.40                                 | 3.985                                  | A                             | A                           |
| 2   | 42.22                          | 2.81                                 | 6.341                                  | A                             | A                           |
| 3   | 25.31                          | 1.69                                 | 3.888                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.24                           | 0.28                                 | 3.366                                  | A                             | A                           |
| 2   | 23.10                          | 1.54                                 | 4.198                                  | A                             | A                           |
| 3   | 16.06                          | 1.07                                 | 2.965                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, PM | Forecast Background + EA2 + EA1N Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 8.98               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 541.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1690.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1676.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 407.29                            | 410.50                              |                                  |                                        |
| 16:45-17:00  | 2   | 1272.32                           | 1309.51                             |                                  |                                        |
| 16:45-17:00  | 3   | 1261.78                           | 1274.73                             |                                  |                                        |
| 17:00-17:15  | 1   | 486.35                            | 490.17                              |                                  |                                        |
| 17:00-17:15  | 2   | 1519.28                           | 1563.69                             |                                  |                                        |
| 17:00-17:15  | 3   | 1506.69                           | 1522.16                             |                                  |                                        |
| 17:15-17:30  | 1   | 595.65                            | 600.33                              |                                  |                                        |
| 17:15-17:30  | 2   | 1860.72                           | 1915.12                             |                                  |                                        |
| 17:15-17:30  | 3   | 1845.31                           | 1864.25                             |                                  |                                        |
| 17:30-17:45  | 1   | 595.65                            | 600.33                              |                                  |                                        |
| 17:30-17:45  | 2   | 1860.72                           | 1915.12                             |                                  |                                        |
| 17:30-17:45  | 3   | 1845.31                           | 1864.25                             |                                  |                                        |
| 17:45-18:00  | 1   | 486.35                            | 490.17                              |                                  |                                        |
| 17:45-18:00  | 2   | 1519.28                           | 1563.69                             |                                  |                                        |
| 17:45-18:00  | 3   | 1506.69                           | 1522.16                             |                                  |                                        |
| 18:00-18:15  | 1   | 407.29                            | 410.50                              |                                  |                                        |
| 18:00-18:15  | 2   | 1272.32                           | 1309.51                             |                                  |                                        |
| 18:00-18:15  | 3   | 1261.78                           | 1274.73                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      |   | To      |          |          |
|------|---|---------|----------|----------|
| From |   | 1       | 2        | 3        |
|      | 1 | 0.000   | 308.000  | 233.000  |
|      | 2 | 235.000 | 2.000    | 1453.000 |
|      | 3 | 205.000 | 1471.000 | 0.000    |

## Turning Proportions (Veh) - Junction 9 (for whole period)

|      |   | To   |      |      |
|------|---|------|------|------|
| From |   | 1    | 2    | 3    |
|      | 1 | 0.00 | 0.57 | 0.43 |
|      | 2 | 0.14 | 0.00 | 0.86 |
|      | 3 | 0.12 | 0.88 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.007 | 1.009 |
|      | 2  | 1.000 | 1.000 | 1.034 |
|      | 3  | 1.005 | 1.011 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 0.7 | 0.9 |
|      | 2  | 0.0 | 0.0 | 3.4 |
|      | 3  | 0.5 | 1.1 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.53    | 6.93          | 1.14            | A       | 496.43                  | 744.65                        | 64.36                          | 5.19                       | 0.72                                 | 64.37                                    | 5.19                                 |
| 2   | 0.87    | 12.95         | 6.45            | B       | 1550.78                 | 2326.16                       | 290.58                         | 7.49                       | 3.23                                 | 290.60                                   | 7.50                                 |
| 3   | 0.74    | 5.56          | 2.82            | A       | 1537.92                 | 2306.88                       | 156.01                         | 4.06                       | 1.73                                 | 156.02                                   | 4.06                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 407.29                | 101.82                  | 405.64              | 330.01             | 1105.51                   | 0.00                       | 1384.23           | 828.08                       | 0.294 | 0.00              | 0.41            | 3.672     | A   |
| 2   | 1272.32               | 318.08                  | 1266.78             | 1336.44            | 174.70                    | 0.00                       | 2180.88           | 2077.68                      | 0.583 | 0.00              | 1.39            | 3.915     | A   |
| 3   | 1261.78               | 315.44                  | 1257.87             | 1263.83            | 177.65                    | 0.00                       | 2544.49           | 2472.11                      | 0.496 | 0.00              | 0.98            | 2.790     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 486.35                | 121.59                  | 485.55              | 394.79             | 1322.46                   | 0.00                       | 1271.12           | 828.08                       | 0.383 | 0.41              | 0.61            | 4.577     | A   |
| 2   | 1519.28               | 379.82                  | 1515.54             | 1598.89            | 209.12                    | 0.00                       | 2161.36           | 2077.68                      | 0.703 | 1.39              | 2.32            | 5.542     | A   |
| 3   | 1506.68               | 376.67                  | 1504.72             | 1512.13            | 212.53                    | 0.00                       | 2522.29           | 2472.11                      | 0.597 | 0.98              | 1.47            | 3.532     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 595.65                | 148.91                  | 593.62              | 481.67             | 1617.16                   | 0.00                       | 1117.47           | 828.07                       | 0.533 | 0.61              | 1.12            | 6.846     | A   |
| 2   | 1860.73               | 465.18                  | 1845.37             | 1955.11            | 255.66                    | 0.00                       | 2134.96           | 2077.68                      | 0.872 | 2.32              | 6.16            | 11.847    | B   |
| 3   | 1845.30               | 461.33                  | 1840.04             | 1842.24            | 258.79                    | 0.00                       | 2492.85           | 2472.11                      | 0.740 | 1.47              | 2.79            | 5.469     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 595.65                | 148.91                  | 595.60              | 484.27             | 1621.67                   | 0.00                       | 1115.11           | 828.07                       | 0.534 | 1.12              | 1.14            | 6.929     | A   |
| 2   | 1860.73               | 465.18                  | 1859.57             | 1960.76            | 256.52                    | 0.00                       | 2134.47           | 2077.68                      | 0.872 | 6.16              | 6.45            | 12.954    | B   |
| 3   | 1845.30               | 461.33                  | 1845.16             | 1855.31            | 260.78                    | 0.00                       | 2491.58           | 2472.11                      | 0.741 | 2.79              | 2.82            | 5.565     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 486.35                | 121.59                  | 488.38              | 398.44             | 1328.86                   | 0.00                       | 1267.79           | 828.08                       | 0.384 | 1.14              | 0.63            | 4.632     | A   |
| 2   | 1519.28               | 379.82                  | 1535.40             | 1606.89            | 210.34                    | 0.00                       | 2160.67           | 2077.68                      | 0.703 | 6.45              | 2.42            | 5.899     | A   |
| 3   | 1506.68               | 376.67                  | 1511.97             | 1530.42            | 215.32                    | 0.00                       | 2520.52           | 2472.11                      | 0.598 | 2.82              | 1.50            | 3.587     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 407.29                | 101.82                  | 408.12              | 332.06             | 1110.74                   | 0.00                       | 1381.50           | 828.08                       | 0.295 | 0.63              | 0.42            | 3.700     | A   |
| 2   | 1272.32               | 318.08                  | 1276.33             | 1343.09            | 175.77                    | 0.00                       | 2180.28           | 2077.68                      | 0.584 | 2.42              | 1.42            | 3.999     | A   |
| 3   | 1261.78               | 315.44                  | 1263.82             | 1273.11            | 178.99                    | 0.00                       | 2543.64           | 2472.11                      | 0.496 | 1.50              | 0.99            | 2.816     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.07                           | 0.40                                 | 3.672                                  | A                             | A                           |
| 2   | 20.06                          | 1.34                                 | 3.915                                  | A                             | A                           |
| 3   | 14.31                          | 0.95                                 | 2.790                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.01                           | 0.60                                 | 4.577                                  | A                             | A                           |
| 2   | 33.28                          | 2.22                                 | 5.542                                  | A                             | A                           |
| 3   | 21.48                          | 1.43                                 | 3.532                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.19                          | 1.08                                 | 6.846                                  | A                             | A                           |
| 2   | 81.23                          | 5.42                                 | 11.847                                 | B                             | B                           |
| 3   | 39.71                          | 2.65                                 | 5.469                                  | A                             | A                           |



### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.97                          | 1.13                                 | 6.929                                  | A                             | A                           |
| 2   | 94.98                          | 6.33                                 | 12.954                                 | B                             | B                           |
| 3   | 42.11                          | 2.81                                 | 5.565                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.68                           | 0.65                                 | 4.632                                  | A                             | A                           |
| 2   | 39.11                          | 2.61                                 | 5.899                                  | A                             | A                           |
| 3   | 23.23                          | 1.55                                 | 3.587                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.43                           | 0.43                                 | 3.700                                  | A                             | A                           |
| 2   | 21.93                          | 1.46                                 | 3.999                                  | A                             | A                           |
| 3   | 15.17                          | 1.01                                 | 2.816                                  | A                             | A                           |

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, AM | Background 2019 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 6.49               | A            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 371.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1540.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1578.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 279.31                            | 289.09                              |                                  |                                        |
| 08:00-08:15  | 2   | 1159.39                           | 1217.68                             |                                  |                                        |
| 08:00-08:15  | 3   | 1188.00                           | 1193.31                             |                                  |                                        |
| 08:15-08:30  | 1   | 333.52                            | 345.20                              |                                  |                                        |
| 08:15-08:30  | 2   | 1384.43                           | 1454.03                             |                                  |                                        |
| 08:15-08:30  | 3   | 1418.59                           | 1424.93                             |                                  |                                        |
| 08:30-08:45  | 1   | 408.48                            | 422.78                              |                                  |                                        |
| 08:30-08:45  | 2   | 1695.57                           | 1780.82                             |                                  |                                        |
| 08:30-08:45  | 3   | 1737.41                           | 1745.18                             |                                  |                                        |
| 08:45-09:00  | 1   | 408.48                            | 422.78                              |                                  |                                        |
| 08:45-09:00  | 2   | 1695.57                           | 1780.82                             |                                  |                                        |
| 08:45-09:00  | 3   | 1737.41                           | 1745.18                             |                                  |                                        |
| 09:00-09:15  | 1   | 333.52                            | 345.20                              |                                  |                                        |
| 09:00-09:15  | 2   | 1384.43                           | 1454.03                             |                                  |                                        |
| 09:00-09:15  | 3   | 1418.59                           | 1424.93                             |                                  |                                        |
| 09:15-09:30  | 1   | 279.31                            | 289.09                              |                                  |                                        |
| 09:15-09:30  | 2   | 1159.39                           | 1217.68                             |                                  |                                        |
| 09:15-09:30  | 3   | 1188.00                           | 1193.31                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      | To |         |          |          |
|------|----|---------|----------|----------|
|      |    | 1       | 2        | 3        |
| From | 1  | 0.000   | 202.000  | 169.000  |
|      | 2  | 309.000 | 3.000    | 1228.000 |
|      | 3  | 252.000 | 1326.000 | 0.000    |

## Turning Proportions (veh) - Junction 9 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.54 | 0.46 |
|      | 2  | 0.20 | 0.00 | 0.80 |
|      | 3  | 0.16 | 0.84 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|  | To |       |       |       |
|--|----|-------|-------|-------|
|  |    | 1     | 2     | 3     |
|  | 1  | 1.000 | 1.030 | 1.041 |
|  | 2  | 1.032 | 1.000 | 1.055 |
|  | 3  | 1.028 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|  | To |     |     |     |
|--|----|-----|-----|-----|
|  |    | 1   | 2   | 3   |
|  | 1  | 0.0 | 3.0 | 4.1 |
|  | 2  | 3.2 | 0.0 | 5.5 |
|  | 3  | 2.8 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.35    | 4.70          | 0.53            | A       | 340.44                  | 510.65                        | 33.38                          | 3.92                       | 0.37                                 | 33.38                                    | 3.92                                 |
| 2   | 0.80    | 8.31          | 3.84            | A       | 1413.13                 | 2119.69                       | 198.85                         | 5.63                       | 2.21                                 | 198.87                                   | 5.63                                 |
| 3   | 0.71    | 5.08          | 2.43            | A       | 1448.00                 | 2172.00                       | 137.46                         | 3.80                       | 1.53                                 | 137.47                                   | 3.80                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 279.31                | 69.83                   | 278.32              | 420.86             | 997.55                    | 0.00                       | 1408.24           | 892.29                       | 0.198 | 0.00              | 0.25            | 3.183     | A   |
| 2   | 1159.39               | 289.85                  | 1154.80             | 1149.08            | 126.78                    | 0.00                       | 2161.58           | 2001.18                      | 0.536 | 0.00              | 1.15            | 3.560     | A   |
| 3   | 1188.00               | 297.00                  | 1184.45             | 1047.62            | 233.96                    | 0.00                       | 2518.39           | 2405.13                      | 0.472 | 0.00              | 0.89            | 2.692     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 333.52                | 83.38                   | 333.15              | 503.54             | 1193.30                   | 0.00                       | 1309.93           | 892.29                       | 0.255 | 0.25              | 0.34            | 3.686     | A   |
| 2   | 1384.43               | 346.11                  | 1381.86             | 1374.69            | 151.76                    | 0.00                       | 2147.25           | 2001.18                      | 0.645 | 1.15              | 1.79            | 4.687     | A   |
| 3   | 1418.59               | 354.65                  | 1416.88             | 1253.65            | 279.96                    | 0.00                       | 2488.01           | 2405.13                      | 0.570 | 0.89              | 1.32            | 3.355     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 408.48                | 102.12                  | 407.73              | 615.40             | 1459.59                   | 0.00                       | 1176.21           | 892.29                       | 0.347 | 0.34              | 0.53            | 4.679     | A   |
| 2   | 1695.57               | 423.89                  | 1687.68             | 1681.58            | 185.73                    | 0.00                       | 2127.77           | 2001.18                      | 0.797 | 1.79              | 3.76            | 8.037     | A   |
| 3   | 1737.41               | 434.35                  | 1733.06             | 1531.50            | 341.92                    | 0.00                       | 2447.08           | 2405.14                      | 0.710 | 1.32              | 2.40            | 5.010     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 408.48                | 102.12                  | 408.47              | 617.60             | 1463.17                   | 0.00                       | 1174.41           | 892.29                       | 0.348 | 0.53              | 0.53            | 4.699     | A   |
| 2   | 1695.57               | 423.89                  | 1695.25             | 1685.57            | 186.07                    | 0.00                       | 2127.58           | 2001.18                      | 0.797 | 3.76              | 3.84            | 8.310     | A   |
| 3   | 1737.41               | 434.35                  | 1737.31             | 1537.86            | 343.46                    | 0.00                       | 2446.07           | 2405.14                      | 0.710 | 2.40              | 2.43            | 5.077     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 333.52                | 83.38                   | 334.27              | 506.62             | 1198.42                   | 0.00                       | 1307.37           | 892.29                       | 0.255 | 0.53              | 0.34            | 3.704     | A   |
| 2   | 1384.43               | 346.11                  | 1392.42             | 1380.41            | 152.27                    | 0.00                       | 2146.96           | 2001.18                      | 0.645 | 3.84              | 1.84            | 4.821     | A   |
| 3   | 1418.59               | 354.65                  | 1422.94             | 1262.59            | 282.10                    | 0.00                       | 2486.59           | 2405.13                      | 0.571 | 2.43              | 1.34            | 3.397     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 279.31                | 69.83                   | 279.69              | 423.18             | 1002.03                   | 0.00                       | 1405.99           | 892.29                       | 0.199 | 0.34              | 0.25            | 3.196     | A   |
| 2   | 1159.39               | 289.85                  | 1162.09             | 1154.31            | 127.41                    | 0.00                       | 2161.22           | 2001.18                      | 0.536 | 1.84              | 1.17            | 3.611     | A   |
| 3   | 1188.00               | 297.00                  | 1189.77             | 1054.06            | 235.44                    | 0.00                       | 2517.41           | 2405.13                      | 0.472 | 1.34              | 0.90            | 2.716     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.62                           | 0.24                                 | 3.183                                  | A                             | A                           |
| 2   | 16.68                          | 1.11                                 | 3.560                                  | A                             | A                           |
| 3   | 13.02                          | 0.87                                 | 2.692                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.01                           | 0.33                                 | 3.686                                  | A                             | A                           |
| 2   | 25.93                          | 1.73                                 | 4.687                                  | A                             | A                           |
| 3   | 19.27                          | 1.28                                 | 3.355                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.74                           | 0.52                                 | 4.679                                  | A                             | A                           |
| 2   | 52.25                          | 3.48                                 | 8.037                                  | A                             | A                           |
| 3   | 34.48                          | 2.30                                 | 5.010                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.95                           | 0.53                                 | 4.699                                  | A                             | A                           |
| 2   | 57.13                          | 3.81                                 | 8.310                                  | A                             | A                           |
| 3   | 36.27                          | 2.42                                 | 5.077                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.27                           | 0.35                                 | 3.704                                  | A                             | A                           |
| 2   | 28.88                          | 1.93                                 | 4.821                                  | A                             | A                           |
| 3   | 20.68                          | 1.38                                 | 3.397                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.79                           | 0.25                                 | 3.196                                  | A                             | A                           |
| 2   | 17.98                          | 1.20                                 | 3.611                                  | A                             | A                           |
| 3   | 13.74                          | 0.92                                 | 2.716                                  | A                             | A                           |

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, PM | Background 2019 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 9        | A12, B1438 | Roundabout    | 1,2,3     |                 |                  |                    | 6.36               | A            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | B1438       |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.55                             | 8.32                | 26.45                           | 21.01                | 76.90                             | 33.00                              |           |
| 2   | 7.70                             | 7.70                | 0.00                            | 21.00                | 76.80                             | 29.00                              |           |
| 3   | 8.06                             | 9.19                | 1.00                            | 32.05                | 76.80                             | 16.00                              |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.520       | 1976.037                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.579       | 2346.629                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.643       | 2684.863                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 511.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1584.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 1522.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 384.71                            | 387.73                              |                                  |                                        |
| 16:45-17:00  | 2   | 1192.52                           | 1217.09                             |                                  |                                        |
| 16:45-17:00  | 3   | 1145.84                           | 1146.57                             |                                  |                                        |
| 17:00-17:15  | 1   | 459.38                            | 462.99                              |                                  |                                        |
| 17:00-17:15  | 2   | 1423.98                           | 1453.33                             |                                  |                                        |
| 17:00-17:15  | 3   | 1368.25                           | 1369.12                             |                                  |                                        |
| 17:15-17:30  | 1   | 562.62                            | 567.04                              |                                  |                                        |
| 17:15-17:30  | 2   | 1744.02                           | 1779.95                             |                                  |                                        |
| 17:15-17:30  | 3   | 1675.75                           | 1676.82                             |                                  |                                        |
| 17:30-17:45  | 1   | 562.62                            | 567.04                              |                                  |                                        |
| 17:30-17:45  | 2   | 1744.02                           | 1779.95                             |                                  |                                        |
| 17:30-17:45  | 3   | 1675.75                           | 1676.82                             |                                  |                                        |
| 17:45-18:00  | 1   | 459.38                            | 462.99                              |                                  |                                        |
| 17:45-18:00  | 2   | 1423.98                           | 1453.33                             |                                  |                                        |
| 17:45-18:00  | 3   | 1368.25                           | 1369.12                             |                                  |                                        |
| 18:00-18:15  | 1   | 384.71                            | 387.73                              |                                  |                                        |
| 18:00-18:15  | 2   | 1192.52                           | 1217.09                             |                                  |                                        |
| 18:00-18:15  | 3   | 1145.84                           | 1146.57                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 9 (for whole period)

|      | To |         |          |          |
|------|----|---------|----------|----------|
|      |    | 1       | 2        | 3        |
| From | 1  | 0.000   | 291.000  | 220.000  |
|      | 2  | 222.000 | 2.000    | 1360.000 |
|      | 3  | 194.000 | 1328.000 | 0.000    |

## Turning Proportions (Veh) - Junction 9 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      |    | 1    | 2    | 3    |
| From | 1  | 0.00 | 0.57 | 0.43 |
|      | 2  | 0.14 | 0.00 | 0.86 |
|      | 3  | 0.13 | 0.87 | 0.00 |



# Vehicle Mix

## Average PCU Per Vehicle - Junction 9 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      |    | 1     | 2     | 3     |
| From | 1  | 1.000 | 1.007 | 1.009 |
|      | 2  | 1.000 | 1.000 | 1.024 |
|      | 3  | 1.005 | 1.000 | 1.000 |

## Heavy Vehicle Percentages - Junction 9 (for whole period)

|      | To |     |     |     |
|------|----|-----|-----|-----|
|      |    | 1   | 2   | 3   |
| From | 1  | 0.0 | 0.7 | 0.9 |
|      | 2  | 0.0 | 0.0 | 2.4 |
|      | 3  | 0.5 | 0.0 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.47    | 5.60          | 0.87            | A       | 468.90                  | 703.35                        | 52.06                          | 4.44                       | 0.58                                 | 52.07                                    | 4.44                                 |
| 2   | 0.81    | 8.61          | 4.09            | A       | 1453.50                 | 2180.25                       | 207.78                         | 5.72                       | 2.31                                 | 207.80                                   | 5.72                                 |
| 3   | 0.66    | 4.24          | 1.96            | A       | 1396.61                 | 2094.92                       | 116.24                         | 3.33                       | 1.29                                 | 116.25                                   | 3.33                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 384.71                | 96.18                   | 383.27              | 312.13             | 998.50                    | 0.00                       | 1445.68           | 837.49                       | 0.266 | 0.00              | 0.36            | 3.384     | A   |
| 2   | 1192.51               | 298.13                  | 1187.84             | 1216.76            | 165.01                    | 0.00                       | 2204.85           | 2092.98                      | 0.541 | 0.00              | 1.17            | 3.524     | A   |
| 3   | 1145.84               | 286.46                  | 1142.65             | 1184.88            | 167.98                    | 0.00                       | 2575.20           | 2492.94                      | 0.445 | 0.00              | 0.80            | 2.508     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 459.38                | 114.84                  | 458.76              | 373.42             | 1194.42                   | 0.00                       | 1344.64           | 837.49                       | 0.342 | 0.36              | 0.52            | 4.061     | A   |
| 2   | 1423.98               | 355.99                  | 1421.29             | 1455.67            | 197.51                    | 0.00                       | 2186.26           | 2092.98                      | 0.651 | 1.17              | 1.84            | 4.689     | A   |
| 3   | 1368.24               | 342.06                  | 1366.85             | 1417.81            | 200.99                    | 0.00                       | 2553.98           | 2492.94                      | 0.536 | 0.80              | 1.15            | 3.028     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 562.62                | 140.66                  | 561.23              | 456.41             | 1461.55                   | 0.00                       | 1206.88           | 837.49                       | 0.466 | 0.52              | 0.86            | 5.563     | A   |
| 2   | 1744.01               | 436.00                  | 1735.40             | 1781.15            | 241.63                    | 0.00                       | 2161.02           | 2092.98                      | 0.807 | 1.84              | 3.99            | 8.293     | A   |
| 3   | 1675.75               | 418.94                  | 1672.55             | 1731.61            | 245.41                    | 0.00                       | 2525.44           | 2492.94                      | 0.664 | 1.15              | 1.95            | 4.205     | A   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 562.62                | 140.66                  | 562.60              | 457.97             | 1464.31                   | 0.00                       | 1205.46           | 837.49                       | 0.467 | 0.86              | 0.87            | 5.599     | A   |
| 2   | 1744.01               | 436.00                  | 1743.64             | 1784.68            | 242.21                    | 0.00                       | 2160.68           | 2092.98                      | 0.807 | 3.99              | 4.09            | 8.610     | A   |
| 3   | 1675.75               | 418.94                  | 1675.69             | 1739.29            | 246.58                    | 0.00                       | 2524.69           | 2492.94                      | 0.664 | 1.95              | 1.96            | 4.240     | A   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 459.38                | 114.84                  | 460.76              | 375.61             | 1198.43                   | 0.00                       | 1342.57           | 837.49                       | 0.342 | 0.87              | 0.52            | 4.088     | A   |
| 2   | 1423.98               | 355.99                  | 1432.73             | 1460.82            | 198.37                    | 0.00                       | 2185.76           | 2092.98                      | 0.651 | 4.09              | 1.90            | 4.836     | A   |
| 3   | 1368.24               | 342.06                  | 1371.43             | 1428.50            | 202.61                    | 0.00                       | 2552.94           | 2492.94                      | 0.536 | 1.96              | 1.16            | 3.056     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 384.71                | 96.18                   | 385.34              | 313.77             | 1002.54                   | 0.00                       | 1443.60           | 837.49                       | 0.266 | 0.52              | 0.37            | 3.403     | A   |
| 2   | 1192.51               | 298.13                  | 1195.35             | 1221.98            | 165.90                    | 0.00                       | 2204.34           | 2092.98                      | 0.541 | 1.90              | 1.19            | 3.579     | A   |
| 3   | 1145.84               | 286.46                  | 1147.27             | 1192.22            | 169.04                    | 0.00                       | 2574.51           | 2492.94                      | 0.445 | 1.16              | 0.81            | 2.526     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.30                           | 0.35                                 | 3.384                                  | A                             | A                           |
| 2   | 16.99                          | 1.13                                 | 3.524                                  | A                             | A                           |
| 3   | 11.72                          | 0.78                                 | 2.508                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.58                           | 0.51                                 | 4.061                                  | A                             | A                           |
| 2   | 26.67                          | 1.78                                 | 4.689                                  | A                             | A                           |
| 3   | 16.84                          | 1.12                                 | 3.028                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.56                          | 0.84                                 | 5.563                                  | A                             | A                           |
| 2   | 55.25                          | 3.68                                 | 8.293                                  | A                             | A                           |
| 3   | 28.18                          | 1.88                                 | 4.205                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.01                          | 0.87                                 | 5.599                                  | A                             | A                           |
| 2   | 60.75                          | 4.05                                 | 8.610                                  | A                             | A                           |
| 3   | 29.32                          | 1.95                                 | 4.240                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.04                           | 0.54                                 | 4.088                                  | A                             | A                           |
| 2   | 29.81                          | 1.99                                 | 4.836                                  | A                             | A                           |
| 3   | 17.88                          | 1.19                                 | 3.056                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.57                           | 0.37                                 | 3.403                                  | A                             | A                           |
| 2   | 18.31                          | 1.22                                 | 3.579                                  | A                             | A                           |
| 3   | 12.30                          | 0.82                                 | 2.526                                  | A                             | A                           |

# **East Anglia TWO Offshore Windfarm**

Junction 10

# Junction 10- A12 / A1214 Junction



## Notes

| Link | Arm | Road Name                    |
|------|-----|------------------------------|
| -    | A   | Main Road                    |
| -    | B   | A12 (south)                  |
| -    | C   | A1214                        |
| -    | D   | Ipswich Park and Ride Access |
| -    | E   | A12 (north)                  |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

AM Peak Traffic  
Thursday 6th June 2019: 07:45AM - 08:45AM

### Vehicles

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 101  | 107 | 3  | 10   | 221    |
| B       | 47  | 0    | 318 | 14 | 1074 | 1453   |
| C       | 77  | 640  | 0   | 15 | 384  | 1116   |
| D       | 0   | 4    | 4   | 0  | 12   | 20     |
| E       | 10  | 1119 | 379 | 31 | 1    | 1540   |
| Totals  | 134 | 1864 | 808 | 63 | 1481 | 4350   |

### HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 1  | 0 | 0  | 1      |
| B       | 3  | 0  | 14 | 0 | 75 | 92     |
| C       | 4  | 13 | 0  | 0 | 11 | 28     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 3  | 54 | 12 | 0 | 0  | 69     |
| Totals  | 10 | 67 | 27 | 0 | 86 | 190    |

### Total

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 101  | 108 | 3  | 10   | 222    |
| B       | 50  | 0    | 332 | 14 | 1149 | 1545   |
| C       | 81  | 653  | 0   | 15 | 395  | 1144   |
| D       | 0   | 4    | 4   | 0  | 12   | 20     |
| E       | 13  | 1173 | 391 | 31 | 1    | 1609   |
| Totals  | 144 | 1931 | 835 | 0  | 1567 | 4540   |

### %HGV

| From/To | A     | B    | C    | D    | E    | Average |
|---------|-------|------|------|------|------|---------|
| A       | 0.0%  | 0.0% | 0.9% | 0.0% | 0.0% | 0       |
| B       | 6.0%  | 0.0% | 4.2% | 0.0% | 6.5% | 0       |
| C       | 4.9%  | 2.0% | 0.0% | 0.0% | 2.8% | 0       |
| D       | 0.0%  | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 23.1% | 4.6% | 3.1% | 0.0% | 0.0% | 0       |
| Average | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

PM Peak Traffic  
Wednesday 5th June 2019: 16:30PM - 17:30PM

### Vehicles

| From/To | A   | B    | C    | D  | E    | Totals |
|---------|-----|------|------|----|------|--------|
| A       | 0   | 163  | 104  | 1  | 8    | 276    |
| B       | 89  | 0    | 581  | 2  | 1157 | 1829   |
| C       | 88  | 469  | 0    | 1  | 386  | 944    |
| D       | 5   | 9    | 4    | 0  | 22   | 40     |
| E       | 9   | 1219 | 383  | 8  | 1    | 1620   |
| Totals  | 191 | 1860 | 1072 | 12 | 1574 | 4709   |

### HGVs

| From/To | A | B  | C  | D | E  | Totals |
|---------|---|----|----|---|----|--------|
| A       | 0 | 0  | 2  | 0 | 0  | 2      |
| B       | 7 | 0  | 23 | 0 | 38 | 68     |
| C       | 2 | 13 | 0  | 0 | 3  | 18     |
| D       | 0 | 0  | 0  | 0 | 0  | 0      |
| E       | 0 | 33 | 5  | 0 | 0  | 38     |
| Totals  | 9 | 46 | 30 | 0 | 41 | 126    |

### Totals

| From/To | A   | B    | C    | D | E    | Totals |
|---------|-----|------|------|---|------|--------|
| A       | 0   | 163  | 106  | 1 | 8    | 278    |
| B       | 96  | 0    | 604  | 2 | 1195 | 1897   |
| C       | 90  | 482  | 0    | 1 | 389  | 962    |
| D       | 5   | 9    | 4    | 0 | 22   | 40     |
| E       | 9   | 1252 | 388  | 8 | 1    | 1658   |
| Totals  | 200 | 1906 | 1102 | 0 | 1615 | 4835   |

### %HGV

| From/To | A    | B    | C    | D    | E    | Average |
|---------|------|------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.9% | 0.0% | 0.0% | 0       |
| B       | 7.3% | 0.0% | 3.8% | 0.0% | 3.2% | 0       |
| C       | 2.2% | 2.7% | 0.0% | 0.0% | 0.8% | 0       |
| D       | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 0.0% | 2.6% | 1.3% | 0.0% | 0.0% | 0       |
| Average | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 113 | 3  | 11   | 234    |
| B       | 50  | 0    | 336 | 15 | 1136 | 1537   |
| C       | 81  | 677  | 0   | 16 | 406  | 1181   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 11  | 1184 | 401 | 33 | 1    | 1629   |
| Totals  | 142 | 1972 | 855 | 0  | 1567 | 4601   |

### Growth Factored HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 1  | 0 | 0  | 1      |
| B       | 3  | 0  | 15 | 0 | 79 | 97     |
| C       | 4  | 14 | 0  | 0 | 12 | 30     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 3  | 57 | 13 | 0 | 0  | 73     |
| Totals  | 11 | 71 | 29 | 0 | 91 | 201    |

### Growth Factored Total

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 114 | 3  | 11   | 235    |
| B       | 53  | 0    | 351 | 15 | 1215 | 1634   |
| C       | 86  | 691  | 0   | 16 | 418  | 1210   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 14  | 1241 | 414 | 33 | 1    | 1702   |
| Totals  | 152 | 2043 | 883 | 0  | 1658 | 4802   |

### %HGV

| From/To | A     | B    | C    | D    | E    | Average |
|---------|-------|------|------|------|------|---------|
| A       | 0.0%  | 0.0% | 0.9% | 0.0% | 0.0% | 0       |
| B       | 6.0%  | 0.0% | 4.2% | 0.0% | 6.5% | 0       |
| C       | 4.9%  | 2.0% | 0.0% | 0.0% | 2.8% | 0       |
| D       | 0.0%  | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 23.1% | 4.6% | 3.1% | 0.0% | 0.0% | 0       |
| Average | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

### Growth Factored Vehicles

| From/To | A   | B    | C    | D | E    | Totals |
|---------|-----|------|------|---|------|--------|
| A       | 0   | 173  | 110  | 1 | 8    | 292    |
| B       | 94  | 0    | 615  | 2 | 1225 | 1937   |
| C       | 93  | 497  | 0    | 1 | 409  | 1000   |
| D       | 5   | 10   | 4    | 0 | 23   | 42     |
| E       | 10  | 1291 | 406  | 8 | 1    | 1715   |
| Totals  | 202 | 1969 | 1135 | 0 | 1667 | 4966   |

### Growth Factored HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 2  | 0 | 0  | 2      |
| B       | 7  | 0  | 24 | 0 | 40 | 72     |
| C       | 2  | 14 | 0  | 0 | 3  | 19     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 0  | 35 | 5  | 0 | 0  | 40     |
| Totals  | 10 | 49 | 32 | 0 | 43 | 133    |

### Growth Factored Total

| From/To | A   | B    | C    | D | E    | Totals |
|---------|-----|------|------|---|------|--------|
| A       | 0   | 173  | 112  | 1 | 8    | 294    |
| B       | 102 | 0    | 639  | 2 | 1265 | 2008   |
| C       | 95  | 510  | 0    | 1 | 412  | 1019   |
| D       | 5   | 10   | 4    | 0 | 23   | 42     |
| E       | 10  | 1326 | 411  | 8 | 1    | 1755   |
| Totals  | 212 | 2018 | 1167 | 0 | 1710 | 5119   |

### %HGV

| From/To | A    | B    | C    | D    | E    | Average |
|---------|------|------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.9% | 0.0% | 0.0% | 0       |
| B       | 7.3% | 0.0% | 3.8% | 0.0% | 3.2% | 0       |
| C       | 2.2% | 2.7% | 0.0% | 0.0% | 0.8% | 0       |
| D       | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 0.0% | 2.6% | 1.3% | 0.0% | 0.0% | 0       |
| Average | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

# Junction 10- A12 / A1214 Junction



## Notes

| Link | Arm | Road Name                    |
|------|-----|------------------------------|
| -    | A   | Main Road                    |
| -    | B   | A12 (south)                  |
| -    | C   | A1214                        |
| -    | D   | Ipswich Park and Ride Access |
| -    | E   | A12 (north)                  |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## EA2 Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A | B | C | D | E  | Totals |
|---------|---|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 0 | 36 | 36     |
| C       | 0 | 0 | 0 | 0 | 6  | 6      |
| D       | 0 | 0 | 0 | 0 | 0  | 0      |
| E       | 0 | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 0 | 42 | 42     |

#### HGVs

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0 | 0  | 0      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 11 | 0 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 0 | 11 | 21     |

#### Total

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 46 | 46     |
| C       | 0 | 0  | 0 | 0 | 6  | 6      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 11 | 0 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 0 | 52 | 63     |

#### %HGV

| From/To | A    | B      | C    | D    | E     | Average |
|---------|------|--------|------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0% | 0.0%  | 0       |
| B       | 0.0% | 0.0%   | 0.0% | 0.0% | 22.7% | 0       |
| C       | 0.0% | 0.0%   | 0.0% | 0.0% | 0.0%  | 0       |
| D       | 0.0% | 0.0%   | 0.0% | 0.0% | 0.0%  | 0       |
| E       | 0.0% | 100.0% | 0.0% | 0.0% | 0.0%  | 0       |
| Average | 0.0  | 0.2    | 0.0  | 0.0  | 0.0   | 0       |

### PM Peak Traffic

#### Vehicles

| From/To | A | B  | C | D | E | Totals |
|---------|---|----|---|---|---|--------|
| A       | 0 | 0  | 0 | 0 | 0 | 0      |
| B       | 0 | 0  | 0 | 0 | 0 | 0      |
| C       | 0 | 0  | 0 | 0 | 0 | 0      |
| D       | 0 | 0  | 0 | 0 | 0 | 0      |
| E       | 0 | 36 | 6 | 0 | 0 | 42     |
| Totals  | 0 | 36 | 6 | 0 | 0 | 42     |

#### HGVs

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0 | 0  | 0      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 11 | 0 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 0 | 11 | 21     |

#### Total

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0 | 0  | 0      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 46 | 6 | 0 | 0  | 52     |
| Totals  | 0 | 46 | 6 | 0 | 11 | 63     |

#### %HGV

| From/To | A    | B     | C    | D    | E      | Average |
|---------|------|-------|------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0% | 0.0%   | 0       |
| B       | 0.0% | 0.0%  | 0.0% | 0.0% | 100.0% | 0       |
| C       | 0.0% | 0.0%  | 0.0% | 0.0% | 0.0%   | 0       |
| D       | 0.0% | 0.0%  | 0.0% | 0.0% | 0.0%   | 0       |
| E       | 0.0% | 22.7% | 0.0% | 0.0% | 0.0%   | 0       |
| Average | 0.0  | 0.0   | 0.0  | 0.0  | 0.2    | 0       |

## Forecast Flows + EA2 Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 113 | 3  | 11   | 234    |
| B       | 50  | 0    | 336 | 15 | 1172 | 1573   |
| C       | 81  | 677  | 0   | 16 | 412  | 1186   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 11  | 1184 | 401 | 33 | 1    | 1629   |
| Totals  | 142 | 1972 | 855 | 67 | 1608 | 4643   |

#### HGVs

| From/To | A  | B  | C  | D | E   | Totals |
|---------|----|----|----|---|-----|--------|
| A       | 0  | 0  | 1  | 0 | 0   | 1      |
| B       | 3  | 0  | 15 | 0 | 90  | 108    |
| C       | 4  | 14 | 0  | 0 | 12  | 30     |
| D       | 0  | 0  | 0  | 0 | 0   | 0      |
| E       | 3  | 68 | 13 | 0 | 0   | 83     |
| Totals  | 11 | 81 | 29 | 0 | 101 | 222    |

#### Total

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 114 | 3  | 11   | 235    |
| B       | 53  | 0    | 351 | 15 | 1262 | 1681   |
| C       | 86  | 691  | 0   | 16 | 424  | 1216   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 14  | 1251 | 414 | 33 | 1    | 1713   |
| Totals  | 152 | 2053 | 883 | 67 | 1710 | 4865   |

#### %HGV

| From/To | A     | B    | C    | D    | E    | Average |
|---------|-------|------|------|------|------|---------|
| A       | 0.0%  | 0.0% | 0.9% | 0.0% | 0.0% | 0       |
| B       | 6.0%  | 0.0% | 4.2% | 0.0% | 7.1% | 0       |
| C       | 4.9%  | 2.0% | 0.0% | 0.0% | 2.7% | 0       |
| D       | 0.0%  | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 23.1% | 5.4% | 3.1% | 0.0% | 0.0% | 0       |
| Average | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B    | C    | D  | E    | Totals |
|---------|-----|------|------|----|------|--------|
| A       | 0   | 173  | 110  | 1  | 8    | 292    |
| B       | 94  | 0    | 615  | 2  | 1225 | 1937   |
| C       | 93  | 497  | 0    | 1  | 409  | 1000   |
| D       | 5   | 10   | 4    | 0  | 23   | 42     |
| E       | 10  | 1326 | 411  | 8  | 1    | 1757   |
| Totals  | 202 | 2005 | 1141 | 13 | 1667 | 5028   |

#### HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 2  | 0 | 0  | 2      |
| B       | 7  | 0  | 24 | 0 | 51 | 82     |
| C       | 2  | 14 | 0  | 0 | 3  | 19     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 0  | 45 | 5  | 0 | 0  | 51     |
| Totals  | 10 | 59 | 32 | 0 | 54 | 154    |

#### Total

| From/To | A   | B    | C    | D  | E    | Totals |
|---------|-----|------|------|----|------|--------|
| A       | 0   | 173  | 112  | 1  | 8    | 294    |
| B       | 102 | 0    | 639  | 2  | 1276 | 2019   |
| C       | 95  | 510  | 0    | 1  | 412  | 1019   |
| D       | 5   | 10   | 4    | 0  | 23   | 42     |
| E       | 10  | 1372 | 417  | 8  | 1    | 1808   |
| Totals  | 212 | 2064 | 1173 | 13 | 1720 | 5182   |

#### %HGV

| From/To | A    | B    | C    | D    | E    | Average |
|---------|------|------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.9% | 0.0% | 0.0% | 0       |
| B       | 7.3% | 0.0% | 3.8% | 0.0% | 4.0% | 0       |
| C       | 2.2% | 2.7% | 0.0% | 0.0% | 0.8% | 0       |
| D       | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 0.0% | 3.3% | 1.3% | 0.0% | 0.0% | 0       |
| Average | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

# Junction 10- A12 / A1214 Junction



## Notes

| Link | Arm | Road Name                    |
|------|-----|------------------------------|
| -    | A   | Main Road                    |
| -    | B   | A12 (south)                  |
| -    | C   | A1214                        |
| -    | D   | Ipswich Park and Ride Access |
| -    | E   | A12 (north)                  |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

AM Peak Traffic  
Thursday 6th June 2019: 07:45AM - 08:45AM

### Vehicles

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 101  | 107 | 3  | 10   | 221    |
| B       | 47  | 0    | 318 | 14 | 1074 | 1453   |
| C       | 77  | 640  | 0   | 15 | 384  | 1116   |
| D       | 0   | 4    | 4   | 0  | 12   | 20     |
| E       | 10  | 1119 | 379 | 31 | 1    | 1540   |
| Totals  | 134 | 1864 | 808 | 63 | 1481 | 4350   |

### HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 1  | 0 | 0  | 1      |
| B       | 3  | 0  | 14 | 0 | 75 | 92     |
| C       | 4  | 13 | 0  | 0 | 11 | 28     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 3  | 54 | 12 | 0 | 0  | 69     |
| Totals  | 10 | 67 | 27 | 0 | 86 | 190    |

### Total

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 101  | 108 | 3  | 10   | 222    |
| B       | 50  | 0    | 332 | 14 | 1149 | 1545   |
| C       | 81  | 653  | 0   | 15 | 395  | 1144   |
| D       | 0   | 4    | 4   | 0  | 12   | 20     |
| E       | 13  | 1173 | 391 | 31 | 1    | 1609   |
| Totals  | 144 | 1931 | 835 | 0  | 1567 | 4540   |

### %HGV

| From/To | A     | B    | C    | D    | E    | Average |
|---------|-------|------|------|------|------|---------|
| A       | 0.0%  | 0.0% | 0.9% | 0.0% | 0.0% | 0       |
| B       | 6.0%  | 0.0% | 4.2% | 0.0% | 6.5% | 0       |
| C       | 4.9%  | 2.0% | 0.0% | 0.0% | 2.8% | 0       |
| D       | 0.0%  | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 23.1% | 4.6% | 3.1% | 0.0% | 0.0% | 0       |
| Average | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

PM Peak Traffic  
Wednesday 5th June 2019: 16:30PM - 17:30PM

### Vehicles

| From/To | A   | B    | C    | D  | E    | Totals |
|---------|-----|------|------|----|------|--------|
| A       | 0   | 163  | 104  | 1  | 8    | 276    |
| B       | 89  | 0    | 581  | 2  | 1157 | 1829   |
| C       | 88  | 469  | 0    | 1  | 386  | 944    |
| D       | 5   | 9    | 4    | 0  | 22   | 40     |
| E       | 9   | 1219 | 383  | 8  | 1    | 1620   |
| Totals  | 191 | 1860 | 1072 | 12 | 1574 | 4709   |

### HGVs

| From/To | A | B  | C  | D | E  | Totals |
|---------|---|----|----|---|----|--------|
| A       | 0 | 0  | 2  | 0 | 0  | 2      |
| B       | 7 | 0  | 23 | 0 | 38 | 68     |
| C       | 2 | 13 | 0  | 0 | 3  | 18     |
| D       | 0 | 0  | 0  | 0 | 0  | 0      |
| E       | 0 | 33 | 5  | 0 | 0  | 38     |
| Totals  | 9 | 46 | 30 | 0 | 41 | 126    |

### Totals

| From/To | A   | B    | C    | D | E    | Totals |
|---------|-----|------|------|---|------|--------|
| A       | 0   | 163  | 106  | 1 | 8    | 278    |
| B       | 96  | 0    | 604  | 2 | 1195 | 1897   |
| C       | 90  | 482  | 0    | 1 | 389  | 962    |
| D       | 5   | 9    | 4    | 0 | 22   | 40     |
| E       | 9   | 1252 | 388  | 8 | 1    | 1658   |
| Totals  | 200 | 1906 | 1102 | 0 | 1615 | 4835   |

### %HGV

| From/To | A    | B    | C    | D    | E    | Average |
|---------|------|------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.9% | 0.0% | 0.0% | 0       |
| B       | 7.3% | 0.0% | 3.8% | 0.0% | 3.2% | 0       |
| C       | 2.2% | 2.7% | 0.0% | 0.0% | 0.8% | 0       |
| D       | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 0.0% | 2.6% | 1.3% | 0.0% | 0.0% | 0       |
| Average | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 113 | 3  | 11   | 234    |
| B       | 50  | 0    | 336 | 15 | 1138 | 1537   |
| C       | 81  | 677  | 0   | 16 | 406  | 1181   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 11  | 1184 | 401 | 33 | 1    | 1629   |
| Totals  | 142 | 1972 | 855 | 0  | 1567 | 4601   |

### Growth Factored HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 1  | 0 | 0  | 1      |
| B       | 3  | 0  | 15 | 0 | 79 | 97     |
| C       | 4  | 14 | 0  | 0 | 12 | 30     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 3  | 57 | 13 | 0 | 0  | 73     |
| Totals  | 11 | 71 | 29 | 0 | 91 | 201    |

### Growth Factored Total

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 114 | 3  | 11   | 235    |
| B       | 53  | 0    | 351 | 15 | 1215 | 1634   |
| C       | 86  | 691  | 0   | 16 | 418  | 1210   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 14  | 1241 | 414 | 33 | 1    | 1702   |
| Totals  | 152 | 2043 | 883 | 0  | 1658 | 4802   |

### %HGV

| From/To | A     | B    | C    | D    | E    | Average |
|---------|-------|------|------|------|------|---------|
| A       | 0.0%  | 0.0% | 0.9% | 0.0% | 0.0% | 0       |
| B       | 6.0%  | 0.0% | 4.2% | 0.0% | 6.5% | 0       |
| C       | 4.9%  | 2.0% | 0.0% | 0.0% | 2.8% | 0       |
| D       | 0.0%  | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 23.1% | 4.6% | 3.1% | 0.0% | 0.0% | 0       |
| Average | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

### Growth Factored Vehicles

| From/To | A   | B    | C    | D | E    | Totals |
|---------|-----|------|------|---|------|--------|
| A       | 0   | 173  | 110  | 1 | 8    | 292    |
| B       | 94  | 0    | 615  | 2 | 1225 | 1937   |
| C       | 93  | 497  | 0    | 1 | 409  | 1000   |
| D       | 5   | 10   | 4    | 0 | 23   | 42     |
| E       | 10  | 1291 | 406  | 8 | 1    | 1715   |
| Totals  | 202 | 1969 | 1135 | 0 | 1667 | 4966   |

### Growth Factored HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 2  | 0 | 0  | 2      |
| B       | 7  | 0  | 24 | 0 | 40 | 72     |
| C       | 2  | 14 | 0  | 0 | 3  | 19     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 0  | 35 | 5  | 0 | 0  | 40     |
| Totals  | 10 | 49 | 32 | 0 | 43 | 133    |

### Growth Factored Total

| From/To | A   | B    | C    | D | E    | Totals |
|---------|-----|------|------|---|------|--------|
| A       | 0   | 173  | 112  | 1 | 8    | 294    |
| B       | 102 | 0    | 639  | 2 | 1265 | 2008   |
| C       | 95  | 510  | 0    | 1 | 412  | 1019   |
| D       | 5   | 10   | 4    | 0 | 23   | 42     |
| E       | 10  | 1326 | 411  | 8 | 1    | 1755   |
| Totals  | 212 | 2018 | 1167 | 0 | 1710 | 5119   |

### %HGV

| From/To | A    | B    | C    | D    | E    | Average |
|---------|------|------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.9% | 0.0% | 0.0% | 0       |
| B       | 7.3% | 0.0% | 3.8% | 0.0% | 3.2% | 0       |
| C       | 2.2% | 2.7% | 0.0% | 0.0% | 0.8% | 0       |
| D       | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 0.0% | 2.6% | 1.3% | 0.0% | 0.0% | 0       |
| Average | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

# Junction 10- A12 / A1214 Junction



## Notes

| Link | Arm | Road Name                    |
|------|-----|------------------------------|
| -    | A   | Main Road                    |
| -    | B   | A12 (south)                  |
| -    | C   | A1214                        |
| -    | D   | Ipswich Park and Ride Access |
| -    | E   | A12 (north)                  |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## EA2 + EA1N Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A | B | C | D | E  | Totals |
|---------|---|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 0 | 44 | 44     |
| C       | 0 | 0 | 0 | 0 | 7  | 7      |
| D       | 0 | 0 | 0 | 0 | 0  | 0      |
| E       | 0 | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 0 | 52 | 52     |

#### HGVs

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0 | 0  | 0      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 14 | 0 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 0 | 14 | 27     |

#### Total

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 58 | 58     |
| C       | 0 | 0  | 0 | 0 | 7  | 7      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 14 | 0 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 0 | 65 | 79     |

#### %HGV

| From/To | A    | B      | C    | D    | E     | Average |
|---------|------|--------|------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0% | 0.0%  | 0       |
| B       | 0.0% | 0.0%   | 0.0% | 0.0% | 23.3% | 0       |
| C       | 0.0% | 0.0%   | 0.0% | 0.0% | 0.0%  | 0       |
| D       | 0.0% | 0.0%   | 0.0% | 0.0% | 0.0%  | 0       |
| E       | 0.0% | 100.0% | 0.0% | 0.0% | 0.0%  | 0       |
| Average | 0.0  | 0.2    | 0.0  | 0.0  | 0.0   | 0       |

### PM Peak Traffic

#### Vehicles

| From/To | A | B  | C | D | E | Totals |
|---------|---|----|---|---|---|--------|
| A       | 0 | 0  | 0 | 0 | 0 | 0      |
| B       | 0 | 0  | 0 | 0 | 0 | 0      |
| C       | 0 | 0  | 0 | 0 | 0 | 0      |
| D       | 0 | 0  | 0 | 0 | 0 | 0      |
| E       | 0 | 44 | 7 | 0 | 0 | 52     |
| Totals  | 0 | 44 | 7 | 0 | 0 | 52     |

#### HGVs

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0 | 0  | 0      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 14 | 0 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 0 | 14 | 27     |

#### Total

| From/To | A | B  | C | D | E  | Totals |
|---------|---|----|---|---|----|--------|
| A       | 0 | 0  | 0 | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0 | 0  | 0      |
| D       | 0 | 0  | 0 | 0 | 0  | 0      |
| E       | 0 | 58 | 7 | 0 | 0  | 65     |
| Totals  | 0 | 58 | 7 | 0 | 14 | 79     |

#### %HGV

| From/To | A    | B     | C    | D    | E      | Average |
|---------|------|-------|------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0% | 0.0%   | 0       |
| B       | 0.0% | 0.0%  | 0.0% | 0.0% | 100.0% | 0       |
| C       | 0.0% | 0.0%  | 0.0% | 0.0% | 0.0%   | 0       |
| D       | 0.0% | 0.0%  | 0.0% | 0.0% | 0.0%   | 0       |
| E       | 0.0% | 23.3% | 0.0% | 0.0% | 0.0%   | 0       |
| Average | 0.0  | 0.0   | 0.0  | 0.0  | 0.2    | 0       |

## Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 113 | 3  | 11   | 234    |
| B       | 50  | 0    | 336 | 15 | 1180 | 1581   |
| C       | 81  | 677  | 0   | 16 | 414  | 1188   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 11  | 1184 | 401 | 33 | 1    | 1629   |
| Totals  | 142 | 1972 | 855 | 67 | 1618 | 4653   |

#### HGVs

| From/To | A  | B  | C  | D | E   | Totals |
|---------|----|----|----|---|-----|--------|
| A       | 0  | 0  | 1  | 0 | 0   | 1      |
| B       | 3  | 0  | 15 | 0 | 93  | 111    |
| C       | 4  | 14 | 0  | 0 | 12  | 30     |
| D       | 0  | 0  | 0  | 0 | 0   | 0      |
| E       | 3  | 71 | 13 | 0 | 0   | 86     |
| Totals  | 11 | 84 | 29 | 0 | 104 | 228    |

#### Total

| From/To | A   | B    | C   | D  | E    | Totals |
|---------|-----|------|-----|----|------|--------|
| A       | 0   | 107  | 114 | 3  | 11   | 235    |
| B       | 53  | 0    | 351 | 15 | 1273 | 1692   |
| C       | 86  | 691  | 0   | 16 | 425  | 1217   |
| D       | 0   | 4    | 4   | 0  | 13   | 21     |
| E       | 14  | 1254 | 414 | 33 | 1    | 1716   |
| Totals  | 152 | 2056 | 883 | 67 | 1723 | 4881   |

#### %HGV

| From/To | A     | B    | C    | D    | E    | Average |
|---------|-------|------|------|------|------|---------|
| A       | 0.0%  | 0.0% | 0.9% | 0.0% | 0.0% | 0       |
| B       | 6.0%  | 0.0% | 4.2% | 0.0% | 7.3% | 0       |
| C       | 4.9%  | 2.0% | 0.0% | 0.0% | 2.7% | 0       |
| D       | 0.0%  | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 23.1% | 5.6% | 3.1% | 0.0% | 0.0% | 0       |
| Average | 0.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0       |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B    | C    | D  | E    | Totals |
|---------|-----|------|------|----|------|--------|
| A       | 0   | 173  | 110  | 1  | 8    | 292    |
| B       | 94  | 0    | 615  | 2  | 1225 | 1937   |
| C       | 93  | 497  | 0    | 1  | 409  | 1000   |
| D       | 5   | 10   | 4    | 0  | 23   | 42     |
| E       | 10  | 1335 | 413  | 8  | 1    | 1767   |
| Totals  | 202 | 2014 | 1142 | 13 | 1667 | 5038   |

#### HGVs

| From/To | A  | B  | C  | D | E  | Totals |
|---------|----|----|----|---|----|--------|
| A       | 0  | 0  | 2  | 0 | 0  | 2      |
| B       | 7  | 0  | 24 | 0 | 54 | 85     |
| C       | 2  | 14 | 0  | 0 | 3  | 19     |
| D       | 0  | 0  | 0  | 0 | 0  | 0      |
| E       | 0  | 48 | 5  | 0 | 0  | 54     |
| Totals  | 10 | 62 | 32 | 0 | 57 | 160    |

#### Total

| From/To | A   | B    | C    | D  | E    | Totals |
|---------|-----|------|------|----|------|--------|
| A       | 0   | 173  | 112  | 1  | 8    | 294    |
| B       | 102 | 0    | 639  | 2  | 1279 | 2022   |
| C       | 95  | 510  | 0    | 1  | 412  | 1019   |
| D       | 5   | 10   | 4    | 0  | 23   | 42     |
| E       | 10  | 1383 | 418  | 8  | 1    | 1821   |
| Totals  | 212 | 2076 | 1174 | 13 | 1723 | 5198   |

#### %HGV

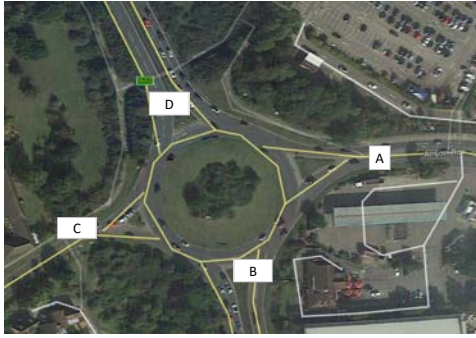
| From/To | A    | B    | C    | D    | E    | Average |
|---------|------|------|------|------|------|---------|
| A       | 0.0% | 0.0% | 1.9% | 0.0% | 0.0% | 0       |
| B       | 7.3% | 0.0% | 3.8% | 0.0% | 4.2% | 0       |
| C       | 2.2% | 2.7% | 0.0% | 0.0% | 0.8% | 0       |
| D       | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0       |
| E       | 0.0% | 3.5% | 1.3% | 0.0% | 0.0% | 0       |
| Average | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0       |



# **East Anglia TWO Offshore Windfarm**

Junction 11

**Junction 11 - A12 / Anson Road / Eagle Way Junction**



**Notes**

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | Anson Road  |
| -    | B   | A12 (south) |
| -    | C   | Eagle Way   |
| -    | D   | A12 (north) |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 63   | 93  | 204  | 360    |
| B       | 189 | 0    | 22  | 1074 | 1285   |
| C       | 69  | 16   | 0   | 143  | 228    |
| D       | 581 | 1294 | 40  | 0    | 1915   |
| Totals  | 839 | 1373 | 155 | 1421 | 3788   |

**HGVs**

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 8  | 1 | 11 | 20     |
| B       | 9  | 0  | 0 | 78 | 87     |
| C       | 0  | 2  | 0 | 5  | 7      |
| D       | 20 | 45 | 1 | 0  | 66     |
| Totals  | 29 | 55 | 2 | 94 | 180    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 71   | 94  | 215  | 380    |
| B       | 198 | 0    | 22  | 1152 | 1372   |
| C       | 69  | 18   | 0   | 148  | 235    |
| D       | 601 | 1339 | 41  | 0    | 1981   |
| Totals  | 868 | 1428 | 157 | 1515 | 3968   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 11.3% | 1.1% | 5.1% | 4%      |
| B       | 4.5% | 0.0%  | 0.0% | 6.8% | 3%      |
| C       | 0.0% | 11.1% | 0.0% | 3.4% | 4%      |
| D       | 3.3% | 3.4%  | 2.4% | 0.0% | 2%      |
| Average | 2%   | 6%    | 1%   | 4%   | 3%      |

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:45PM - 17:45PM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 299  | 115 | 633  | 1047   |
| B       | 252 | 0    | 45  | 1164 | 1461   |
| C       | 30  | 14   | 0   | 79   | 123    |
| D       | 481 | 1302 | 34  | 0    | 1915   |
| Totals  | 763 | 1615 | 194 | 1876 | 4448   |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 4  | 0 | 6  | 10     |
| B       | 0 | 0  | 0 | 43 | 43     |
| C       | 0 | 1  | 0 | 4  | 5      |
| D       | 6 | 29 | 0 | 0  | 35     |
| Totals  | 6 | 34 | 0 | 53 | 93     |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 303  | 115 | 639  | 1057   |
| B       | 252 | 0    | 45  | 1207 | 1504   |
| C       | 30  | 15   | 0   | 83   | 128    |
| D       | 487 | 1331 | 34  | 0    | 1852   |
| Totals  | 769 | 1649 | 194 | 1929 | 4541   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.3% | 0.0% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 3.6% | 1%      |
| C       | 0.0% | 6.7% | 0.0% | 4.8% | 3%      |
| D       | 1.2% | 2.2% | 0.0% | 0.0% | 1%      |
| Average | 0%   | 3%   | 0%   | 2%   | 1%      |

**Forecast Flows (2023)**

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 67   | 98  | 216  | 381    |
| B       | 200 | 0    | 23  | 1136 | 1359   |
| C       | 73  | 17   | 0   | 151  | 241    |
| D       | 615 | 1369 | 42  | 0    | 2026   |
| Totals  | 887 | 1452 | 164 | 1503 | 4007   |

**Growth Factored HGVs**

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 8  | 1 | 12 | 21     |
| B       | 10 | 0  | 0 | 83 | 92     |
| C       | 0  | 2  | 0 | 5  | 7      |
| D       | 21 | 48 | 1 | 0  | 70     |
| Totals  | 31 | 58 | 2 | 99 | 190    |

**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 75   | 99  | 227  | 402    |
| B       | 209 | 0    | 23  | 1219 | 1451   |
| C       | 73  | 19   | 0   | 157  | 249    |
| D       | 636 | 1416 | 43  | 0    | 2096   |
| Totals  | 918 | 1511 | 166 | 1603 | 4197   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 11.3% | 1.1% | 5.1% | 4%      |
| B       | 4.5% | 0.0%  | 0.0% | 6.8% | 3%      |
| C       | 0.0% | 11.1% | 0.0% | 3.4% | 4%      |
| D       | 3.3% | 3.4%  | 2.4% | 0.0% | 2%      |
| Average | 2%   | 6%    | 1%   | 4%   | 3%      |

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 317  | 122 | 670  | 1109   |
| B       | 267 | 0    | 48  | 1232 | 1547   |
| C       | 32  | 15   | 0   | 84   | 130    |
| D       | 509 | 1379 | 36  | 0    | 1924   |
| Totals  | 808 | 1710 | 205 | 1986 | 4710   |

**Growth Factored HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 4  | 0 | 6  | 11     |
| B       | 0 | 0  | 0 | 46 | 46     |
| C       | 0 | 1  | 0 | 4  | 5      |
| D       | 6 | 31 | 0 | 0  | 37     |
| Totals  | 6 | 36 | 0 | 56 | 98     |

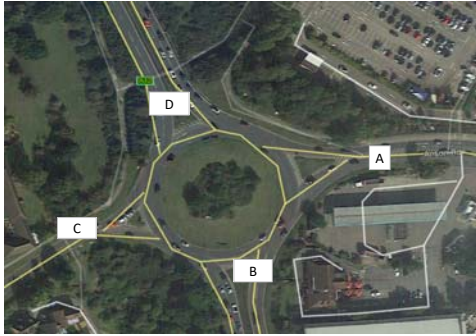
**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 321  | 122 | 677  | 1119   |
| B       | 267 | 0    | 48  | 1278 | 1592   |
| C       | 32  | 16   | 0   | 88   | 136    |
| D       | 516 | 1409 | 36  | 0    | 1961   |
| Totals  | 814 | 1746 | 205 | 2042 | 4808   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.3% | 0.0% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 3.6% | 1%      |
| C       | 0.0% | 6.7% | 0.0% | 4.8% | 3%      |
| D       | 1.2% | 2.2% | 0.0% | 0.0% | 1%      |
| Average | 0%   | 3%   | 0%   | 2%   | 1%      |

**Junction 11 - A12 / Anson Road / Eagle Way Junction**



**Notes**

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | Anson Road  |
| -    | B   | A12 (south) |
| -    | C   | Eagle Way   |
| -    | D   | A12 (north) |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A | B | C | D  | Totals |
|---------|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 31 | 31     |
| C       | 0 | 0 | 0 | 5  | 5      |
| D       | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 36 | 36     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 41 | 41     |
| C       | 0 | 0  | 0 | 5  | 5      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 46 | 57     |

**%HGV**

| From/To | A    | B      | C    | D     | Average |
|---------|------|--------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 25.4% | 6%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 6%    | 8%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A | B  | C | D | Totals |
|---------|---|----|---|---|--------|
| A       | 0 | 0  | 0 | 0 | 0      |
| B       | 0 | 0  | 0 | 0 | 0      |
| C       | 0 | 0  | 0 | 0 | 0      |
| D       | 0 | 31 | 5 | 0 | 36     |
| Totals  | 0 | 31 | 5 | 0 | 36     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 41 | 5 | 0  | 46     |
| Totals  | 0 | 41 | 5 | 11 | 57     |

**%HGV**

| From/To | A    | B     | C    | D      | Average |
|---------|------|-------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 25.4% | 0.0% | 0.0%   | 6%      |
| Average | 0%   | 6%    | 0%   | 25%    | 8%      |

**Forecast Flows + EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 67   | 98  | 216  | 381    |
| B       | 200 | 0    | 23  | 1167 | 1390   |
| C       | 73  | 17   | 0   | 156  | 246    |
| D       | 615 | 1369 | 42  | 0    | 2026   |
| Totals  | 887 | 1452 | 164 | 1539 | 4043   |

**HGVs**

| From/To | A  | B  | C | D   | Totals |
|---------|----|----|---|-----|--------|
| A       | 0  | 8  | 1 | 12  | 21     |
| B       | 10 | 0  | 0 | 93  | 103    |
| C       | 0  | 2  | 0 | 5   | 7      |
| D       | 21 | 58 | 1 | 0   | 80     |
| Totals  | 31 | 69 | 2 | 110 | 211    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 75   | 99  | 227  | 402    |
| B       | 209 | 0    | 23  | 1260 | 1493   |
| C       | 73  | 19   | 0   | 161  | 254    |
| D       | 636 | 1427 | 43  | 0    | 2106   |
| Totals  | 918 | 1521 | 166 | 1649 | 4254   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 11.3% | 1.1% | 5.1% | 4%      |
| B       | 4.5% | 0.0%  | 0.0% | 7.4% | 3%      |
| C       | 0.0% | 11.1% | 0.0% | 3.3% | 4%      |
| D       | 3.3% | 4.1%  | 2.4% | 0.0% | 2%      |
| Average | 2%   | 7%    | 1%   | 4%   | 3%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 317  | 122 | 670  | 1109   |
| B       | 267 | 0    | 48  | 1232 | 1547   |
| C       | 32  | 15   | 0   | 84   | 130    |
| D       | 509 | 1409 | 41  | 0    | 1960   |
| Totals  | 808 | 1741 | 210 | 1986 | 4745   |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 4  | 0 | 6  | 11     |
| B       | 0 | 0  | 0 | 56 | 56     |
| C       | 0 | 1  | 0 | 4  | 5      |
| D       | 6 | 41 | 0 | 0  | 48     |
| Totals  | 6 | 46 | 0 | 67 | 119    |

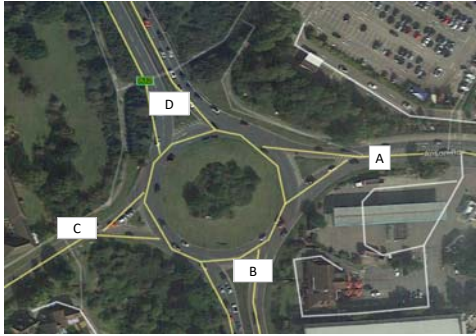
**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 321  | 122 | 677  | 1119   |
| B       | 267 | 0    | 48  | 1288 | 1603   |
| C       | 32  | 16   | 0   | 88   | 136    |
| D       | 516 | 1451 | 41  | 0    | 2007   |
| Totals  | 814 | 1787 | 210 | 2053 | 4865   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.3% | 0.0% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 4.3% | 1%      |
| C       | 0.0% | 6.7% | 0.0% | 4.8% | 3%      |
| D       | 1.2% | 2.8% | 0.0% | 0.0% | 1%      |
| Average | 0%   | 3%   | 0%   | 3%   | 1%      |

**Junction 11 - A12 / Anson Road / Eagle Way Junction**



**Notes**

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | Anson Road  |
| -    | B   | A12 (south) |
| -    | C   | Eagle Way   |
| -    | D   | A12 (north) |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 63   | 93  | 204  | 360    |
| B       | 189 | 0    | 22  | 1074 | 1285   |
| C       | 69  | 16   | 0   | 143  | 228    |
| D       | 581 | 1294 | 40  | 0    | 1915   |
| Totals  | 839 | 1373 | 155 | 1421 | 3788   |

**HGVs**

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 8  | 1 | 11 | 20     |
| B       | 9  | 0  | 0 | 78 | 87     |
| C       | 0  | 2  | 0 | 5  | 7      |
| D       | 20 | 45 | 1 | 0  | 66     |
| Totals  | 29 | 55 | 2 | 94 | 180    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 71   | 94  | 215  | 380    |
| B       | 198 | 0    | 22  | 1152 | 1372   |
| C       | 69  | 18   | 0   | 148  | 235    |
| D       | 601 | 1339 | 41  | 0    | 1981   |
| Totals  | 868 | 1428 | 157 | 1515 | 3968   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 11.3% | 1.1% | 5.1% | 4%      |
| B       | 4.5% | 0.0%  | 0.0% | 6.8% | 3%      |
| C       | 0.0% | 11.1% | 0.0% | 3.4% | 4%      |
| D       | 3.3% | 3.4%  | 2.4% | 0.0% | 2%      |
| Average | 2%   | 6%    | 1%   | 4%   | 3%      |

**PM Peak Traffic**  
Wednesday 5th June 2019: 16:45PM - 17:45PM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 299  | 115 | 633  | 1047   |
| B       | 252 | 0    | 45  | 1164 | 1461   |
| C       | 30  | 14   | 0   | 79   | 123    |
| D       | 481 | 1302 | 34  | 0    | 1915   |
| Totals  | 763 | 1615 | 194 | 1876 | 4448   |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 4  | 0 | 6  | 10     |
| B       | 0 | 0  | 0 | 43 | 43     |
| C       | 0 | 1  | 0 | 4  | 5      |
| D       | 6 | 29 | 0 | 0  | 35     |
| Totals  | 6 | 34 | 0 | 53 | 93     |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 303  | 115 | 639  | 1057   |
| B       | 252 | 0    | 45  | 1207 | 1504   |
| C       | 30  | 15   | 0   | 83   | 128    |
| D       | 487 | 1331 | 34  | 0    | 1852   |
| Totals  | 769 | 1649 | 194 | 1929 | 4541   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.3% | 0.0% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 3.6% | 1%      |
| C       | 0.0% | 6.7% | 0.0% | 4.8% | 3%      |
| D       | 1.2% | 2.2% | 0.0% | 0.0% | 1%      |
| Average | 0%   | 3%   | 0%   | 2%   | 1%      |

**Forecast Flows (2023)**

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 67   | 98  | 216  | 381    |
| B       | 200 | 0    | 23  | 1136 | 1359   |
| C       | 73  | 17   | 0   | 151  | 241    |
| D       | 615 | 1369 | 42  | 0    | 2026   |
| Totals  | 887 | 1452 | 164 | 1503 | 4007   |

**Growth Factored HGVs**

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 8  | 1 | 12 | 21     |
| B       | 10 | 0  | 0 | 83 | 92     |
| C       | 0  | 2  | 0 | 5  | 7      |
| D       | 21 | 48 | 1 | 0  | 70     |
| Totals  | 31 | 58 | 2 | 99 | 190    |

**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 75   | 99  | 227  | 402    |
| B       | 209 | 0    | 23  | 1219 | 1451   |
| C       | 73  | 19   | 0   | 157  | 249    |
| D       | 636 | 1416 | 43  | 0    | 2096   |
| Totals  | 918 | 1511 | 166 | 1603 | 4197   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 11.3% | 1.1% | 5.1% | 4%      |
| B       | 4.5% | 0.0%  | 0.0% | 6.8% | 3%      |
| C       | 0.0% | 11.1% | 0.0% | 3.4% | 4%      |
| D       | 3.3% | 3.4%  | 2.4% | 0.0% | 2%      |
| Average | 2%   | 6%    | 1%   | 4%   | 3%      |

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 317  | 122 | 670  | 1109   |
| B       | 267 | 0    | 48  | 1232 | 1547   |
| C       | 32  | 15   | 0   | 84   | 130    |
| D       | 509 | 1379 | 36  | 0    | 1924   |
| Totals  | 808 | 1710 | 205 | 1986 | 4710   |

**Growth Factored HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 4  | 0 | 6  | 11     |
| B       | 0 | 0  | 0 | 46 | 46     |
| C       | 0 | 1  | 0 | 4  | 5      |
| D       | 6 | 31 | 0 | 0  | 37     |
| Totals  | 6 | 36 | 0 | 56 | 98     |

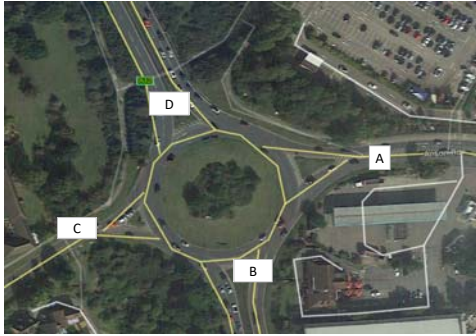
**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 321  | 122 | 677  | 1119   |
| B       | 267 | 0    | 48  | 1278 | 1592   |
| C       | 32  | 16   | 0   | 88   | 136    |
| D       | 516 | 1409 | 36  | 0    | 1961   |
| Totals  | 814 | 1746 | 205 | 2042 | 4808   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 1.3% | 0.0% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 3.6% | 1%      |
| C       | 0.0% | 6.7% | 0.0% | 4.8% | 3%      |
| D       | 1.2% | 2.2% | 0.0% | 0.0% | 1%      |
| Average | 0%   | 3%   | 0%   | 2%   | 1%      |

**Junction 11 - A12 / Anson Road / Eagle Way Junction**



**Notes**

| Link | Arm | Road Name   |
|------|-----|-------------|
| -    | A   | Anson Road  |
| -    | B   | A12 (south) |
| -    | C   | Eagle Way   |
| -    | D   | A12 (north) |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

| Vehicles |   |   |   |    |        |
|----------|---|---|---|----|--------|
| From/To  | A | B | C | D  | Totals |
| A        | 0 | 0 | 0 | 0  | 0      |
| B        | 0 | 0 | 0 | 38 | 38     |
| C        | 0 | 0 | 0 | 6  | 6      |
| D        | 0 | 0 | 0 | 0  | 0      |
| Totals   | 0 | 0 | 0 | 44 | 44     |

| HGVs    |   |    |   |    |        |
|---------|---|----|---|----|--------|
| From/To | A | B  | C | D  | Totals |
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

| Total   |   |    |   |    |        |
|---------|---|----|---|----|--------|
| From/To | A | B  | C | D  | Totals |
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 52 | 52     |
| C       | 0 | 0  | 0 | 6  | 6      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 58 | 71     |

| %HGV    |      |        |      |       |         |
|---------|------|--------|------|-------|---------|
| From/To | A    | B      | C    | D     | Average |
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 26.1% | 7%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 7%    | 8%      |

**PM Peak Traffic**

| Vehicles |   |    |   |   |        |
|----------|---|----|---|---|--------|
| From/To  | A | B  | C | D | Totals |
| A        | 0 | 0  | 0 | 0 | 0      |
| B        | 0 | 0  | 0 | 0 | 0      |
| C        | 0 | 0  | 0 | 0 | 0      |
| D        | 0 | 38 | 6 | 0 | 44     |
| Totals   | 0 | 38 | 6 | 0 | 44     |

| HGVs    |   |    |   |    |        |
|---------|---|----|---|----|--------|
| From/To | A | B  | C | D  | Totals |
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

| Total   |   |    |   |    |        |
|---------|---|----|---|----|--------|
| From/To | A | B  | C | D  | Totals |
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 52 | 6 | 0  | 58     |
| Totals  | 0 | 52 | 6 | 14 | 71     |

| %HGV    |      |       |      |        |         |
|---------|------|-------|------|--------|---------|
| From/To | A    | B     | C    | D      | Average |
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 26.1% | 0.0% | 0.0%   | 7%      |
| Average | 0%   | 7%    | 0%   | 25%    | 8%      |

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

| Vehicles |     |      |     |      |        |
|----------|-----|------|-----|------|--------|
| From/To  | A   | B    | C   | D    | Totals |
| A        | 0   | 67   | 98  | 216  | 381    |
| B        | 200 | 0    | 23  | 1174 | 1398   |
| C        | 73  | 17   | 0   | 157  | 247    |
| D        | 615 | 1369 | 42  | 0    | 2026   |
| Totals   | 887 | 1452 | 164 | 1548 | 4051   |

| HGVs    |    |    |   |     |        |
|---------|----|----|---|-----|--------|
| From/To | A  | B  | C | D   | Totals |
| A       | 0  | 8  | 1 | 12  | 21     |
| B       | 10 | 0  | 0 | 96  | 106    |
| C       | 0  | 2  | 0 | 5   | 7      |
| D       | 21 | 61 | 1 | 0   | 83     |
| Totals  | 31 | 72 | 2 | 113 | 217    |

| Total   |     |      |     |      |        |
|---------|-----|------|-----|------|--------|
| From/To | A   | B    | C   | D    | Totals |
| A       | 0   | 75   | 99  | 227  | 402    |
| B       | 209 | 0    | 23  | 1270 | 1503   |
| C       | 73  | 19   | 0   | 163  | 255    |
| D       | 636 | 1430 | 43  | 0    | 2109   |
| Totals  | 918 | 1524 | 166 | 1660 | 4269   |

| %HGV    |      |       |      |      |         |
|---------|------|-------|------|------|---------|
| From/To | A    | B     | C    | D    | Average |
| A       | 0.0% | 11.3% | 1.1% | 5.1% | 4%      |
| B       | 4.5% | 0.0%  | 0.0% | 7.6% | 3%      |
| C       | 0.0% | 11.1% | 0.0% | 3.3% | 4%      |
| D       | 3.3% | 4.3%  | 2.4% | 0.0% | 3%      |
| Average | 2%   | 7%    | 1%   | 4%   | 3%      |

**PM Peak Traffic**

| Vehicles |     |      |     |      |        |
|----------|-----|------|-----|------|--------|
| From/To  | A   | B    | C   | D    | Totals |
| A        | 0   | 317  | 122 | 670  | 1109   |
| B        | 267 | 0    | 48  | 1232 | 1547   |
| C        | 32  | 15   | 0   | 84   | 130    |
| D        | 509 | 1417 | 42  | 0    | 1968   |
| Totals   | 808 | 1748 | 212 | 1986 | 4754   |

| HGVs    |   |    |   |    |        |
|---------|---|----|---|----|--------|
| From/To | A | B  | C | D  | Totals |
| A       | 0 | 4  | 0 | 6  | 11     |
| B       | 0 | 0  | 0 | 59 | 59     |
| C       | 0 | 1  | 0 | 4  | 5      |
| D       | 6 | 44 | 0 | 0  | 51     |
| Totals  | 6 | 49 | 0 | 70 | 125    |

| Total   |     |      |     |      |        |
|---------|-----|------|-----|------|--------|
| From/To | A   | B    | C   | D    | Totals |
| A       | 0   | 321  | 122 | 677  | 1119   |
| B       | 267 | 0    | 48  | 1291 | 1606   |
| C       | 32  | 16   | 0   | 88   | 136    |
| D       | 516 | 1461 | 42  | 0    | 2019   |
| Totals  | 814 | 1798 | 212 | 2056 | 4879   |

| %HGV    |      |      |      |      |         |
|---------|------|------|------|------|---------|
| From/To | A    | B    | C    | D    | Average |
| A       | 0.0% | 1.3% | 0.0% | 0.9% | 1%      |
| B       | 0.0% | 0.0% | 0.0% | 4.6% | 1%      |
| C       | 0.0% | 6.7% | 0.0% | 4.8% | 3%      |
| D       | 1.2% | 3.0% | 0.0% | 0.0% | 1%      |
| Average | 0%   | 3%   | 0%   | 3%   | 1%      |

| Junctions 8                                                                                                                                                                 |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| ARCADY 8 - Roundabout Module                                                                                                                                                |  |  |  |  |  |  |  |
| Version: 8.0.6.541 [19821.26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |  |  |  |  |  |  |  |
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| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |  |  |  |  |  |  |

Filename: Junction 11 - A12 and Eagle Way and Anson Road.arc8

Path: C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

Report generation date: 18/07/2019 16:43:45

## Summary of junction performance

|                                                                             | AM          |           |      |     | PM          |           |      |     |
|-----------------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                             | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| <b>Existing Layout - Background 2019</b>                                    |             |           |      |     |             |           |      |     |
| Arm 1                                                                       | 0.49        | 4.22      | 0.33 | A   | 5.82        | 18.86     | 0.86 | C   |
| Arm 2                                                                       | 1.11        | 2.66      | 0.53 | A   | 1.71        | 3.74      | 0.63 | A   |
| Arm 3                                                                       | 0.46        | 6.37      | 0.31 | A   | 0.34        | 8.70      | 0.25 | A   |
| Arm 4                                                                       | 4.72        | 7.96      | 0.83 | A   | 3.20        | 5.72      | 0.76 | A   |
| <b>Existing Layout - Forecast Background + EA2 + EA1N Construction 2023</b> |             |           |      |     |             |           |      |     |
| Arm 1                                                                       | 0.58        | 4.72      | 0.37 | A   | 20.04       | 59.69     | 0.99 | F   |
| Arm 2                                                                       | 1.40        | 3.06      | 0.58 | A   | 2.19        | 4.51      | 0.69 | A   |
| Arm 3                                                                       | 0.61        | 7.90      | 0.38 | A   | 0.45        | 10.97     | 0.31 | B   |
| Arm 4                                                                       | 7.75        | 12.51     | 0.89 | B   | 5.19        | 8.60      | 0.84 | A   |
| <b>Existing Layout - Forecast Background + EA2 Construction 2023</b>        |             |           |      |     |             |           |      |     |
| Arm 1                                                                       | 0.57        | 4.70      | 0.37 | A   | 18.69       | 56.15     | 0.98 | F   |
| Arm 2                                                                       | 1.38        | 3.02      | 0.58 | A   | 2.18        | 4.49      | 0.69 | A   |
| Arm 3                                                                       | 0.60        | 7.75      | 0.37 | A   | 0.45        | 10.91     | 0.31 | B   |
| Arm 4                                                                       | 7.58        | 12.24     | 0.89 | B   | 5.02        | 8.36      | 0.84 | A   |
| <b>Existing Layout - Forecast Background 2023</b>                           |             |           |      |     |             |           |      |     |
| Arm 1                                                                       | 0.56        | 4.62      | 0.36 | A   | 13.27       | 41.17     | 0.95 | E   |
| Arm 2                                                                       | 1.27        | 2.88      | 0.56 | A   | 2.09        | 4.33      | 0.68 | A   |
| Arm 3                                                                       | 0.55        | 7.24      | 0.36 | A   | 0.44        | 10.62     | 0.31 | B   |
| Arm 4                                                                       | 7.01        | 11.35     | 0.88 | B   | 4.27        | 7.25      | 0.81 | A   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM " model duration: 08:00 - 09:30

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA2 Construction 2023, AM" model duration: 08:00 - 09:30

"D4 - Forecast Background + EA2 Construction 2023, PM" model duration: 16:45 - 18:15

"D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Background 2019, AM" model duration: 08:00 - 09:30

"D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 18/07/2019 16:43:39

## File summary

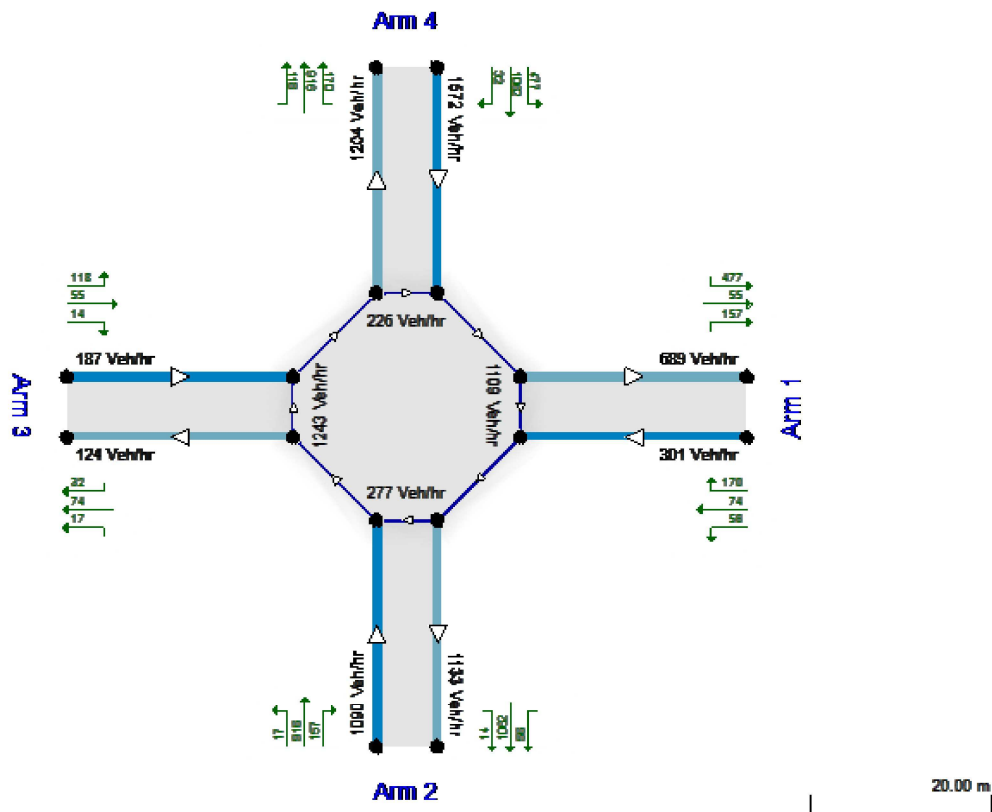
|             |                                                          |
|-------------|----------------------------------------------------------|
| Title       | East Anglia TWO Offshore Windfarm                        |
| Location    | Roundabout junction of the A12, Eagle Way and Anson Road |
| Site Number | J11                                                      |
| Date        | 25/06/2019                                               |
| Version     | D0.1                                                     |
| Status      | Existing Layout                                          |
| Identifier  |                                                          |
| Client      | Scottish Power                                           |
| Jobnumber   | PB4842                                                   |
| Enumerator  | 304111                                                   |
| Description |                                                          |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).

Time Segment: (08:00-08:15)

Showing Analysis Set "A1 - Existing Layout"; Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |

## Junction Network

## Junctions

| Junction | Name                       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 11       | A12, Eagle Way, Anson Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 7.48               | A            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Anson Road  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | Eagle Way   |             |
| 4   | 4   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 5.00                             | 10.92               | 8.17                            | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.587       | 2273.381                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.686       | 2943.384                 |

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 401.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1451.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 249.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2095.00                      | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 301.89                            | 317.81                              |                                  |                                        |
| 08:00-08:15  | 2   | 1092.39                           | 1161.87                             |                                  |                                        |
| 08:00-08:15  | 3   | 187.46                            | 193.07                              |                                  |                                        |
| 08:00-08:15  | 4   | 1577.23                           | 1630.05                             |                                  |                                        |
| 08:15-08:30  | 1   | 360.49                            | 379.50                              |                                  |                                        |
| 08:15-08:30  | 2   | 1304.42                           | 1387.39                             |                                  |                                        |
| 08:15-08:30  | 3   | 223.85                            | 230.54                              |                                  |                                        |
| 08:15-08:30  | 4   | 1883.36                           | 1946.44                             |                                  |                                        |
| 08:30-08:45  | 1   | 441.51                            | 464.79                              |                                  |                                        |
| 08:30-08:45  | 2   | 1597.58                           | 1699.20                             |                                  |                                        |
| 08:30-08:45  | 3   | 274.15                            | 282.35                              |                                  |                                        |
| 08:30-08:45  | 4   | 2306.64                           | 2383.89                             |                                  |                                        |
| 08:45-09:00  | 1   | 441.51                            | 464.79                              |                                  |                                        |
| 08:45-09:00  | 2   | 1597.58                           | 1699.20                             |                                  |                                        |
| 08:45-09:00  | 3   | 274.15                            | 282.35                              |                                  |                                        |
| 08:45-09:00  | 4   | 2306.64                           | 2383.89                             |                                  |                                        |
| 09:00-09:15  | 1   | 360.49                            | 379.50                              |                                  |                                        |
| 09:00-09:15  | 2   | 1304.42                           | 1387.39                             |                                  |                                        |
| 09:00-09:15  | 3   | 223.85                            | 230.54                              |                                  |                                        |
| 09:00-09:15  | 4   | 1883.36                           | 1946.44                             |                                  |                                        |
| 09:15-09:30  | 1   | 301.89                            | 317.81                              |                                  |                                        |
| 09:15-09:30  | 2   | 1092.39                           | 1161.87                             |                                  |                                        |
| 09:15-09:30  | 3   | 187.46                            | 193.07                              |                                  |                                        |
| 09:15-09:30  | 4   | 1577.23                           | 1630.05                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|      | To |         |          |        |
|------|----|---------|----------|--------|
|      | 1  | 2       | 3        | 4      |
| From | 1  | 0.000   | 75.000   | 99.000 |
|      | 2  | 209.000 | 0.000    | 23.000 |
|      | 3  | 73.000  | 19.000   | 0.000  |
|      | 4  | 636.000 | 1416.000 | 43.000 |

## Turning Proportions (Veh) - Junction 11 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      | 1  | 2    | 3    | 4    |
| From | 1  | 0.00 | 0.19 | 0.25 |
|      | 2  | 0.14 | 0.00 | 0.02 |
|      | 3  | 0.29 | 0.08 | 0.00 |
|      | 4  | 0.30 | 0.68 | 0.02 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 11 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      | 1  | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.113 | 1.011 |
|      | 2  | 1.045 | 1.000 | 1.000 |
|      | 3  | 1.000 | 1.111 | 1.000 |
|      | 4  | 1.033 | 1.034 | 1.024 |

## Heavy Vehicle Percentages - Junction 11 (for whole period)

|      | To |     |      |     |
|------|----|-----|------|-----|
|      | 1  | 2   | 3    | 4   |
| From | 1  | 0.0 | 11.3 | 1.1 |
|      | 2  | 4.5 | 0.0  | 0.0 |
|      | 3  | 0.0 | 11.1 | 0.0 |

|  |   |     |     |     |     |
|--|---|-----|-----|-----|-----|
|  | 4 | 3.3 | 3.4 | 2.4 | 0.0 |
|--|---|-----|-----|-----|-----|

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.36    | 4.62          | 0.56            | A       | 367.96                  | 551.95                        | 34.55                          | 3.76                       | 0.38                                 | 34.55                                    | 3.76                                 |
| 2   | 0.56    | 2.88          | 1.27            | A       | 1331.46                 | 1997.19                       | 79.87                          | 2.40                       | 0.89                                 | 79.88                                    | 2.40                                 |
| 3   | 0.36    | 7.24          | 0.55            | A       | 228.49                  | 342.73                        | 31.70                          | 5.55                       | 0.35                                 | 31.70                                    | 5.55                                 |
| 4   | 0.88    | 11.35         | 7.01            | B       | 1922.41                 | 2883.62                       | 308.53                         | 6.42                       | 3.43                                 | 308.55                                   | 6.42                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 301.89                | 75.47                   | 300.91              | 688.83             | 1108.74                   | 0.00                       | 1519.83           | 1121.27                      | 0.199 | 0.00              | 0.25            | 2.950     | A   |
| 2   | 1092.39               | 273.10                  | 1090.03             | 1132.77            | 276.89                    | 0.00                       | 2942.58           | 2442.17                      | 0.371 | 0.00              | 0.59            | 1.940     | A   |
| 3   | 187.46                | 46.86                   | 186.62              | 123.82             | 1243.09                   | 0.00                       | 1076.89           | 131.42                       | 0.174 | 0.00              | 0.21            | 4.040     | A   |
| 4   | 1577.23               | 394.31                  | 1571.62             | 1203.76            | 225.96                    | 0.00                       | 2692.25           | 2570.98                      | 0.586 | 0.00              | 1.40            | 3.197     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 360.49                | 90.12                   | 360.09              | 823.83             | 1325.94                   | 0.00                       | 1394.51           | 1121.27                      | 0.259 | 0.25              | 0.35            | 3.480     | A   |
| 2   | 1304.42               | 326.10                  | 1303.52             | 1354.71            | 331.32                    | 0.00                       | 2903.01           | 2442.17                      | 0.449 | 0.59              | 0.81            | 2.249     | A   |
| 3   | 223.85                | 55.96                   | 223.46              | 148.14             | 1486.71                   | 0.00                       | 948.38            | 131.42                       | 0.236 | 0.21              | 0.31            | 4.964     | A   |
| 4   | 1883.36               | 470.84                  | 1879.46             | 1439.84            | 270.32                    | 0.00                       | 2661.67           | 2570.98                      | 0.708 | 1.40              | 2.38            | 4.579     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 441.51                | 110.38                  | 440.67              | 1004.94            | 1615.17                   | 0.00                       | 1227.64           | 1121.27                      | 0.360 | 0.35              | 0.56            | 4.570     | A   |
| 2   | 1597.58               | 399.39                  | 1595.76             | 1650.59            | 405.24                    | 0.00                       | 2849.26           | 2442.17                      | 0.561 | 0.81              | 1.27            | 2.868     | A   |
| 3   | 274.15                | 68.54                   | 273.21              | 181.08             | 1819.93                   | 0.00                       | 772.60            | 131.42                       | 0.355 | 0.31              | 0.54            | 7.196     | A   |
| 4   | 2306.64               | 576.66                  | 2289.30             | 1762.33            | 330.80                    | 0.00                       | 2619.98           | 2570.98                      | 0.880 | 2.38              | 6.71            | 10.382    | B   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 441.51                | 110.38                  | 441.49              | 1010.36            | 1626.47                   | 0.00                       | 1221.12           | 1121.27                      | 0.362 | 0.56              | 0.56            | 4.617     | A   |
| 2   | 1597.58               | 399.39                  | 1597.56             | 1661.73            | 406.23                    | 0.00                       | 2848.54           | 2442.17                      | 0.561 | 1.27              | 1.27            | 2.877     | A   |
| 3   | 274.15                | 68.54                   | 274.14              | 181.64             | 1822.16                   | 0.00                       | 771.43            | 131.42                       | 0.355 | 0.54              | 0.55            | 7.238     | A   |
| 4   | 2306.64               | 576.66                  | 2305.44             | 1764.90            | 331.40                    | 0.00                       | 2619.57           | 2570.98                      | 0.881 | 6.71              | 7.01            | 11.346    | B   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 360.49                | 90.12                   | 361.33              | 831.32             | 1341.44                   | 0.00                       | 1385.58           | 1121.27                      | 0.260 | 0.56              | 0.35            | 3.516     | A   |
| 2   | 1304.42               | 326.10                  | 1306.23             | 1369.99            | 332.78                    | 0.00                       | 2901.95           | 2442.17                      | 0.450 | 1.27              | 0.82            | 2.258     | A   |
| 3   | 223.85                | 55.96                   | 224.79              | 148.94             | 1490.07                   | 0.00                       | 946.61            | 131.42                       | 0.236 | 0.55              | 0.31            | 4.995     | A   |
| 4   | 1883.36               | 470.84                  | 1901.56             | 1443.66            | 271.20                    | 0.00                       | 2661.07           | 2570.98                      | 0.708 | 7.01              | 2.46            | 4.849     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 301.89                | 75.47                   | 302.31              | 692.63             | 1115.63                   | 0.00                       | 1515.85           | 1121.27                      | 0.199 | 0.35              | 0.25            | 2.969     | A   |
| 2   | 1092.39               | 273.10                  | 1093.30             | 1139.71            | 278.23                    | 0.00                       | 2941.61           | 2442.17                      | 0.371 | 0.82              | 0.59            | 1.948     | A   |
| 3   | 187.46                | 46.86                   | 187.86              | 124.42             | 1247.10                   | 0.00                       | 1074.78           | 131.42                       | 0.174 | 0.31              | 0.21            | 4.062     | A   |
| 4   | 1577.23               | 394.31                  | 1581.37             | 1208.07            | 226.89                    | 0.00                       | 2691.61           | 2570.98                      | 0.586 | 2.46              | 1.43            | 3.256     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.64                           | 0.24                                 | 2.950                                  | A                             | A                           |
| 2   | 8.69                           | 0.58                                 | 1.940                                  | A                             | A                           |
| 3   | 3.07                           | 0.20                                 | 4.040                                  | A                             | A                           |
| 4   | 20.40                          | 1.36                                 | 3.197                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.12                           | 0.34                                 | 3.480                                  | A                             | A                           |
| 2   | 12.01                          | 0.80                                 | 2.249                                  | A                             | A                           |
| 3   | 4.51                           | 0.30                                 | 4.964                                  | A                             | A                           |
| 4   | 34.28                          | 2.29                                 | 4.579                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.17                           | 0.54                                 | 4.570                                  | A                             | A                           |
| 2   | 18.60                          | 1.24                                 | 2.868                                  | A                             | A                           |
| 3   | 7.88                           | 0.53                                 | 7.196                                  | A                             | A                           |
| 4   | 88.71                          | 5.91                                 | 10.382                                 | B                             | B                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.42                           | 0.56                                 | 4.617                                  | A                             | A                           |
| 2   | 19.06                          | 1.27                                 | 2.877                                  | A                             | A                           |
| 3   | 8.19                           | 0.55                                 | 7.238                                  | A                             | A                           |
| 4   | 103.40                         | 6.89                                 | 11.346                                 | B                             | B                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.41                           | 0.36                                 | 3.516                                  | A                             | A                           |
| 2   | 12.51                          | 0.83                                 | 2.258                                  | A                             | A                           |
| 3   | 4.80                           | 0.32                                 | 4.995                                  | A                             | A                           |
| 4   | 39.71                          | 2.65                                 | 4.849                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.80                           | 0.25                                 | 2.969                                  | A                             | A                           |
| 2   | 9.00                           | 0.60                                 | 1.948                                  | A                             | A                           |
| 3   | 3.25                           | 0.22                                 | 4.062                                  | A                             | A                           |
| 4   | 22.02                          | 1.47                                 | 3.256                                  | A                             | A                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name       | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|---------------------|---------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Forecast Background | Forecast Background | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |



|   |          |   |         |         |
|---|----------|---|---------|---------|
| 2 | ONE HOUR | ✓ | 1593.00 | 100.000 |
| 3 | ONE HOUR | ✓ | 136.00  | 100.000 |
| 4 | ONE HOUR | ✓ | 1961.00 | 100.000 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 843.19                            | 850.92                              |                                  |                                        |
| 16:45-17:00  | 2   | 1199.29                           | 1233.93                             |                                  |                                        |
| 16:45-17:00  | 3   | 102.39                            | 106.38                              |                                  |                                        |
| 16:45-17:00  | 4   | 1476.34                           | 1504.34                             |                                  |                                        |
| 17:00-17:15  | 1   | 1006.86                           | 1016.09                             |                                  |                                        |
| 17:00-17:15  | 2   | 1432.07                           | 1473.43                             |                                  |                                        |
| 17:00-17:15  | 3   | 122.26                            | 127.02                              |                                  |                                        |
| 17:00-17:15  | 4   | 1762.90                           | 1796.33                             |                                  |                                        |
| 17:15-17:30  | 1   | 1233.14                           | 1244.45                             |                                  |                                        |
| 17:15-17:30  | 2   | 1753.93                           | 1804.58                             |                                  |                                        |
| 17:15-17:30  | 3   | 149.74                            | 155.57                              |                                  |                                        |
| 17:15-17:30  | 4   | 2159.10                           | 2200.05                             |                                  |                                        |
| 17:30-17:45  | 1   | 1233.14                           | 1244.45                             |                                  |                                        |
| 17:30-17:45  | 2   | 1753.93                           | 1804.58                             |                                  |                                        |
| 17:30-17:45  | 3   | 149.74                            | 155.57                              |                                  |                                        |
| 17:30-17:45  | 4   | 2159.10                           | 2200.05                             |                                  |                                        |
| 17:45-18:00  | 1   | 1006.86                           | 1016.09                             |                                  |                                        |
| 17:45-18:00  | 2   | 1432.07                           | 1473.43                             |                                  |                                        |
| 17:45-18:00  | 3   | 122.26                            | 127.02                              |                                  |                                        |
| 17:45-18:00  | 4   | 1762.90                           | 1796.33                             |                                  |                                        |
| 18:00-18:15  | 1   | 843.19                            | 850.92                              |                                  |                                        |
| 18:00-18:15  | 2   | 1199.29                           | 1233.93                             |                                  |                                        |
| 18:00-18:15  | 3   | 102.39                            | 106.38                              |                                  |                                        |
| 18:00-18:15  | 4   | 1476.34                           | 1504.34                             |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|      | To |         |          |         |
|------|----|---------|----------|---------|
|      | 1  | 2       | 3        | 4       |
| From | 1  | 0.000   | 321.000  | 122.000 |
|      | 2  | 267.000 | 0.000    | 48.000  |
|      | 3  | 32.000  | 16.000   | 0.000   |
|      | 4  | 516.000 | 1409.000 | 36.000  |

### Turning Proportions (Veh) - Junction 11 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      | 1  | 2    | 3    | 4    |
| From | 1  | 0.00 | 0.29 | 0.11 |
|      | 2  | 0.17 | 0.00 | 0.03 |
|      | 3  | 0.24 | 0.12 | 0.00 |
|      | 4  | 0.26 | 0.72 | 0.02 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

|      | To |       |       |       |
|------|----|-------|-------|-------|
|      | 1  | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.013 | 1.000 |
|      | 2  | 1.000 | 1.000 | 1.000 |
|      | 3  | 1.000 | 1.067 | 1.000 |
|      | 4  | 1.012 | 1.022 | 1.000 |

### Heavy Vehicle Percentages - Junction 11 (for whole period)

|      | To |      |      |      |
|------|----|------|------|------|
|      | 1  | 2    | 3    | 4    |
| From | 1  | 0.00 | 0.29 | 0.11 |
|      | 2  | 0.17 | 0.00 | 0.03 |
|      | 3  | 0.24 | 0.12 | 0.00 |
|      | 4  | 0.26 | 0.72 | 0.02 |

|      |   |     |     |     |     |
|------|---|-----|-----|-----|-----|
|      |   | 1   | 2   | 3   | 4   |
| From | 1 | 0.0 | 1.3 | 0.0 | 0.9 |
|      | 2 | 0.0 | 0.0 | 0.0 | 3.6 |
|      | 3 | 0.0 | 6.7 | 0.0 | 4.8 |
|      | 4 | 1.2 | 2.2 | 0.0 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.95    | 41.17         | 13.27           | E       | 1027.73                 | 1541.59                       | 414.42                         | 16.13                      | 4.60                                 | 414.45                                   | 16.13                                |
| 2   | 0.68    | 4.33          | 2.09            | A       | 1461.77                 | 2192.65                       | 117.62                         | 3.22                       | 1.31                                 | 117.62                                   | 3.22                                 |
| 3   | 0.31    | 10.62         | 0.44            | B       | 124.80                  | 187.19                        | 22.87                          | 7.33                       | 0.25                                 | 22.87                                    | 7.33                                 |
| 4   | 0.81    | 7.25          | 4.27            | A       | 1799.46                 | 2699.18                       | 214.01                         | 4.76                       | 2.38                                 | 214.03                                   | 4.76                                 |

### Main Results for each time segment

#### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 843.19                | 210.80                  | 838.79              | 611.71             | 1096.41                   | 0.00                       | 1600.97           | 1121.03                      | 0.527 | 0.00              | 1.10            | 4.696     | A   |
| 2   | 1199.30               | 299.82                  | 1196.30             | 1309.79            | 625.40                    | 0.00                       | 2793.49           | 2631.85                      | 0.429 | 0.00              | 0.75            | 2.250     | A   |
| 3   | 102.39                | 25.60                   | 101.86              | 154.43             | 1667.27                   | 0.00                       | 877.96            | 87.78                        | 0.117 | 0.00              | 0.13            | 4.635     | A   |
| 4   | 1476.35               | 369.09                  | 1471.67             | 1532.68            | 236.46                    | 0.00                       | 2728.85           | 2570.25                      | 0.541 | 0.00              | 1.17            | 2.853     | A   |

#### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1006.85               | 251.71                  | 1002.84             | 731.62             | 1311.33                   | 0.00                       | 1473.21           | 1121.03                      | 0.683 | 1.10              | 2.10            | 7.589     | A   |
| 2   | 1432.08               | 358.02                  | 1430.60             | 1566.44            | 747.73                    | 0.00                       | 2704.19           | 2631.85                      | 0.530 | 0.75              | 1.12            | 2.824     | A   |
| 3   | 122.26                | 30.57                   | 121.97              | 184.66             | 1993.67                   | 0.00                       | 713.59            | 87.78                        | 0.171 | 0.13              | 0.21            | 6.082     | A   |
| 4   | 1762.91               | 440.73                  | 1760.13             | 1832.81            | 282.83                    | 0.00                       | 2697.52           | 2570.25                      | 0.654 | 1.17              | 1.86            | 3.829     | A   |

#### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1233.14               | 308.28                  | 1198.19             | 894.06             | 1601.65                   | 0.00                       | 1300.63           | 1121.03                      | 0.948 | 2.10              | 10.84           | 28.676    | D   |
| 2   | 1753.93               | 438.48                  | 1750.20             | 1905.60            | 894.25                    | 0.00                       | 2597.25           | 2631.85                      | 0.675 | 1.12              | 2.05            | 4.231     | A   |
| 3   | 149.74                | 37.43                   | 148.87              | 222.72             | 2421.74                   | 0.00                       | 497.90            | 87.78                        | 0.301 | 0.21              | 0.42            | 10.289    | B   |
| 4   | 2159.11               | 539.78                  | 2149.83             | 2224.70            | 345.89                    | 0.00                       | 2654.91           | 2570.25                      | 0.813 | 1.86              | 4.18            | 7.001     | A   |

#### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1233.14               | 308.28                  | 1223.41             | 897.20             | 1608.33                   | 0.00                       | 1296.66           | 1121.03                      | 0.951 | 10.84             | 13.27           | 41.174    | E   |
| 2   | 1753.93               | 438.48                  | 1753.76             | 1919.34            | 912.41                    | 0.00                       | 2583.99           | 2631.85                      | 0.679 | 2.05              | 2.09            | 4.334     | A   |
| 3   | 149.74                | 37.43                   | 149.69              | 225.74             | 2440.43                   | 0.00                       | 488.58            | 87.78                        | 0.306 | 0.42              | 0.44            | 10.619    | B   |
| 4   | 2159.11               | 539.78                  | 2158.77             | 2243.33            | 346.78                    | 0.00                       | 2654.31           | 2570.25                      | 0.813 | 4.18              | 4.27            | 7.251     | A   |

#### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1006.85               | 251.71                  | 1050.95             | 735.99             | 1320.46                   | 0.00                       | 1467.78           | 1121.03                      | 0.686 | 13.27             | 2.25            | 9.527     | A   |
| 2   | 1432.08               | 358.02                  | 1435.82             | 1589.14            | 782.28                    | 0.00                       | 2678.97           | 2631.85                      | 0.535 | 2.09              | 1.16            | 2.906     | A   |
| 3   | 122.26                | 30.57                   | 123.15              | 190.28             | 2027.82                   | 0.00                       | 696.58            | 87.78                        | 0.176 | 0.44              | 0.21            | 6.289     | A   |
| 4   | 1762.91               | 440.73                  | 1772.34             | 1866.86            | 284.12                    | 0.00                       | 2696.64           | 2570.25                      | 0.654 | 4.27              | 1.91            | 3.935     | A   |

#### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-----|-------------------|-----------------|-----------|-----|
|     |                       |                         |                     |                    |                           |                            |                   |                              |     |                   |                 |           |     |

|   |         |        |         |         |         |      |         |         |       |      |      |       |   |
|---|---------|--------|---------|---------|---------|------|---------|---------|-------|------|------|-------|---|
| 1 | 843.19  | 210.80 | 847.66  | 614.68  | 1102.09 | 0.00 | 1597.59 | 1121.03 | 0.528 | 2.25 | 1.13 | 4.828 | A |
| 2 | 1199.30 | 299.82 | 1200.89 | 1317.88 | 631.87  | 0.00 | 2788.76 | 2631.85 | 0.430 | 1.16 | 0.76 | 2.270 | A |
| 3 | 102.39  | 25.60  | 102.71  | 155.68  | 1677.09 | 0.00 | 873.04  | 87.78   | 0.117 | 0.21 | 0.13 | 4.674 | A |
| 4 | 1476.35 | 369.09 | 1479.24 | 1542.27 | 237.53  | 0.00 | 2728.12 | 2570.25 | 0.541 | 1.91 | 1.19 | 2.888 | A |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.90                          | 1.06                                 | 4.696                                  | A                             | A                           |
| 2   | 11.03                          | 0.74                                 | 2.250                                  | A                             | A                           |
| 3   | 1.92                           | 0.13                                 | 4.635                                  | A                             | A                           |
| 4   | 17.10                          | 1.14                                 | 2.853                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 29.86                          | 1.99                                 | 7.589                                  | A                             | A                           |
| 2   | 16.45                          | 1.10                                 | 2.824                                  | A                             | A                           |
| 3   | 3.00                           | 0.20                                 | 6.082                                  | A                             | A                           |
| 4   | 27.10                          | 1.81                                 | 3.829                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 122.35                         | 8.16                                 | 28.676                                 | D                             | C                           |
| 2   | 29.64                          | 1.98                                 | 4.231                                  | A                             | A                           |
| 3   | 6.09                           | 0.41                                 | 10.289                                 | B                             | B                           |
| 4   | 58.15                          | 3.88                                 | 7.001                                  | A                             | A                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 183.18                         | 12.21                                | 41.174                                 | E                             | D                           |
| 2   | 31.18                          | 2.08                                 | 4.334                                  | A                             | A                           |
| 3   | 6.49                           | 0.43                                 | 10.619                                 | B                             | B                           |
| 4   | 63.53                          | 4.24                                 | 7.251                                  | A                             | A                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 45.56                          | 3.04                                 | 9.527                                  | A                             | A                           |
| 2   | 17.78                          | 1.19                                 | 2.906                                  | A                             | A                           |
| 3   | 3.32                           | 0.22                                 | 6.289                                  | A                             | A                           |
| 4   | 29.90                          | 1.99                                 | 3.935                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 17.57                          | 1.17                                 | 4.828                                  | A                             | A                           |
| 2   | 11.55                          | 0.77                                 | 2.270                                  | A                             | A                           |
| 3   | 2.05                           | 0.14                                 | 4.674                                  | A                             | A                           |
| 4   | 18.23                          | 1.22                                 | 2.888                                  | A                             | A                           |

# Existing Layout - Forecast Background + EA2 Construction 2023, AM

## Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Forecast Background + EA2 Construction 2023, AM | Forecast Background + EA2 Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |

## Junction Network

### Junctions

| Junction | Name                       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 11       | A12, Eagle Way, Anson Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 7.97               | A            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Anson Road  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | Eagle Way   |             |
| 4   | 4   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 5.00                             | 10.92               | 8.17                            | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.00                               |           |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.587       | 2273.381                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.686       | 2943.384                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |



# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 401.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1492.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 253.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2106.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 301.89                            | 317.81                              |                                  |                                        |
| 08:00-08:15  | 2   | 1123.26                           | 1201.48                             |                                  |                                        |
| 08:00-08:15  | 3   | 190.47                            | 196.06                              |                                  |                                        |
| 08:00-08:15  | 4   | 1585.51                           | 1646.13                             |                                  |                                        |
| 08:15-08:30  | 1   | 360.49                            | 379.50                              |                                  |                                        |
| 08:15-08:30  | 2   | 1341.28                           | 1434.69                             |                                  |                                        |
| 08:15-08:30  | 3   | 227.44                            | 234.11                              |                                  |                                        |
| 08:15-08:30  | 4   | 1893.25                           | 1965.64                             |                                  |                                        |
| 08:30-08:45  | 1   | 441.51                            | 464.79                              |                                  |                                        |
| 08:30-08:45  | 2   | 1642.72                           | 1757.12                             |                                  |                                        |
| 08:30-08:45  | 3   | 278.56                            | 286.73                              |                                  |                                        |
| 08:30-08:45  | 4   | 2318.75                           | 2407.41                             |                                  |                                        |
| 08:45-09:00  | 1   | 441.51                            | 464.79                              |                                  |                                        |
| 08:45-09:00  | 2   | 1642.72                           | 1757.12                             |                                  |                                        |
| 08:45-09:00  | 3   | 278.56                            | 286.73                              |                                  |                                        |
| 08:45-09:00  | 4   | 2318.75                           | 2407.41                             |                                  |                                        |
| 09:00-09:15  | 1   | 360.49                            | 379.50                              |                                  |                                        |
| 09:00-09:15  | 2   | 1341.28                           | 1434.69                             |                                  |                                        |
| 09:00-09:15  | 3   | 227.44                            | 234.11                              |                                  |                                        |
| 09:00-09:15  | 4   | 1893.25                           | 1965.64                             |                                  |                                        |
| 09:15-09:30  | 1   | 301.89                            | 317.81                              |                                  |                                        |
| 09:15-09:30  | 2   | 1123.26                           | 1201.48                             |                                  |                                        |
| 09:15-09:30  | 3   | 190.47                            | 196.06                              |                                  |                                        |
| 09:15-09:30  | 4   | 1585.51                           | 1646.13                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|      | To |         |          |        |          |
|------|----|---------|----------|--------|----------|
| From |    | 1       | 2        | 3      | 4        |
|      | 1  | 0.000   | 75.000   | 99.000 | 227.000  |
|      | 2  | 209.000 | 0.000    | 23.000 | 1260.000 |
|      | 3  | 73.000  | 19.000   | 0.000  | 161.000  |
|      | 4  | 636.000 | 1427.000 | 43.000 | 0.000    |

## Turning Proportions (Veh) - Junction 11 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.19 | 0.25 | 0.57 |
|      | 2  | 0.14 | 0.00 | 0.02 | 0.84 |
|      | 3  | 0.29 | 0.08 | 0.00 | 0.64 |
|      | 4  | 0.30 | 0.68 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 11 (for whole period)

|  | To |
|--|----|
|  |    |

|      |   | 1     | 2     | 3     | 4     |
|------|---|-------|-------|-------|-------|
| From | 1 | 1.000 | 1.113 | 1.011 | 1.051 |
|      | 2 | 1.045 | 1.000 | 1.000 | 1.075 |
|      | 3 | 1.000 | 1.111 | 1.000 | 1.033 |
|      | 4 | 1.033 | 1.041 | 1.024 | 1.000 |

### Heavy Vehicle Percentages - Junction 11 (for whole period)

|      |   | To  |      |     |     |
|------|---|-----|------|-----|-----|
|      |   | 1   | 2    | 3   | 4   |
| From | 1 | 0.0 | 11.3 | 1.1 | 5.1 |
|      | 2 | 4.5 | 0.0  | 0.0 | 7.5 |
|      | 3 | 0.0 | 11.1 | 0.0 | 3.3 |
|      | 4 | 3.3 | 4.1  | 2.4 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.37    | 4.70          | 0.57            | A       | 367.96                  | 551.95                        | 34.98                          | 3.80                       | 0.39                                 | 34.98                                    | 3.80                                 |
| 2   | 0.58    | 3.02          | 1.38            | A       | 1369.09                 | 2053.63                       | 85.42                          | 2.50                       | 0.95                                 | 85.42                                    | 2.50                                 |
| 3   | 0.37    | 7.75          | 0.60            | A       | 232.16                  | 348.23                        | 33.84                          | 5.83                       | 0.38                                 | 33.84                                    | 5.83                                 |
| 4   | 0.89    | 12.24         | 7.58            | B       | 1932.50                 | 2898.75                       | 326.09                         | 6.75                       | 3.62                                 | 326.12                                   | 6.75                                 |

### Main Results for each time segment

#### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 301.89                | 75.47                   | 300.90              | 688.79             | 1116.92                   | 0.00                       | 1510.94           | 1113.67                      | 0.200 | 0.00              | 0.25            | 2.972     | A   |
| 2   | 1123.26               | 280.81                  | 1120.77             | 1140.94            | 276.88                    | 0.00                       | 2926.00           | 2433.13                      | 0.384 | 0.00              | 0.62            | 1.992     | A   |
| 3   | 190.47                | 47.62                   | 189.60              | 123.82             | 1273.83                   | 0.00                       | 1057.89           | 130.63                       | 0.180 | 0.00              | 0.22            | 4.141     | A   |
| 4   | 1585.50               | 396.38                  | 1579.76             | 1237.49            | 225.94                    | 0.00                       | 2679.94           | 2567.48                      | 0.592 | 0.00              | 1.44            | 3.255     | A   |

#### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 360.49                | 90.12                   | 360.08              | 823.77             | 1335.70                   | 0.00                       | 1383.90           | 1113.67                      | 0.260 | 0.25              | 0.35            | 3.514     | A   |
| 2   | 1341.28               | 335.32                  | 1340.31             | 1364.46            | 331.31                    | 0.00                       | 2886.65           | 2433.13                      | 0.465 | 0.62              | 0.86            | 2.327     | A   |
| 3   | 227.44                | 56.86                   | 227.02              | 148.13             | 1523.48                   | 0.00                       | 925.47            | 130.63                       | 0.246 | 0.22              | 0.32            | 5.150     | A   |
| 4   | 1893.25               | 473.31                  | 1889.15             | 1480.19            | 270.30                    | 0.00                       | 2649.51           | 2567.48                      | 0.715 | 1.44              | 2.46            | 4.709     | A   |

#### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 441.51                | 110.38                  | 440.65              | 1004.40            | 1626.06                   | 0.00                       | 1215.27           | 1113.67                      | 0.363 | 0.35              | 0.57            | 4.643     | A   |
| 2   | 1642.72               | 410.68                  | 1640.70             | 1661.53            | 405.19                    | 0.00                       | 2833.24           | 2433.13                      | 0.580 | 0.86              | 1.37            | 3.013     | A   |
| 3   | 278.56                | 69.64                   | 277.49              | 181.04             | 1864.86                   | 0.00                       | 744.38            | 130.63                       | 0.374 | 0.32              | 0.59            | 7.693     | A   |
| 4   | 2318.74               | 579.69                  | 2299.73             | 1811.61            | 330.74                    | 0.00                       | 2608.04           | 2567.48                      | 0.889 | 2.46              | 7.21            | 11.053    | B   |

#### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 441.51                | 110.38                  | 441.48              | 1010.28            | 1638.40                   | 0.00                       | 1208.12           | 1113.67                      | 0.365 | 0.57              | 0.57            | 4.695     | A   |
| 2   | 1642.72               | 410.68                  | 1642.70             | 1673.65            | 406.23                    | 0.00                       | 2832.49           | 2433.13                      | 0.580 | 1.37              | 1.38            | 3.025     | A   |
| 3   | 278.56                | 69.64                   | 278.54              | 181.63             | 1867.29                   | 0.00                       | 743.09            | 130.63                       | 0.375 | 0.59              | 0.60            | 7.749     | A   |
| 4   | 2318.74               | 579.69                  | 2317.28             | 1814.44            | 331.40                    | 0.00                       | 2607.59           | 2567.48                      | 0.889 | 7.21              | 7.58            | 12.241    | B   |

#### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 360.49                | 90.12                   | 361.35              | 831.92             | 1352.69                   | 0.00                       | 1374.03           | 1113.67                      | 0.262 | 0.57              | 0.36            | 3.559     | A   |

|   |         |        |         |         |         |      |         |         |       |      |      |       |   |
|---|---------|--------|---------|---------|---------|------|---------|---------|-------|------|------|-------|---|
| 2 | 1341.28 | 335.32 | 1343.29 | 1381.22 | 332.83  | 0.00 | 2885.55 | 2433.13 | 0.465 | 1.38 | 0.87 | 2.336 | A |
| 3 | 227.44  | 56.86  | 228.50  | 148.99  | 1527.13 | 0.00 | 923.53  | 130.63  | 0.246 | 0.60 | 0.33 | 5.189 | A |
| 4 | 1893.25 | 473.31 | 1913.35 | 1484.38 | 271.26  | 0.00 | 2648.85 | 2567.48 | 0.715 | 7.58 | 2.55 | 5.025 | A |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 301.89                | 75.47                   | 302.32              | 692.70             | 1124.07                   | 0.00                       | 1506.78           | 1113.67                      | 0.200 | 0.36              | 0.25            | 2.991     | A   |
| 2   | 1123.26               | 280.81                  | 1124.25             | 1148.15            | 278.24                    | 0.00                       | 2925.02           | 2433.13                      | 0.384 | 0.87              | 0.63            | 2.001     | A   |
| 3   | 190.47                | 47.62                   | 190.90              | 124.43             | 1278.05                   | 0.00                       | 1055.66           | 130.63                       | 0.180 | 0.33              | 0.22            | 4.166     | A   |
| 4   | 1585.50               | 396.38                  | 1589.86             | 1242.04            | 226.90                    | 0.00                       | 2679.29           | 2567.48                      | 0.592 | 2.55              | 1.46            | 3.316     | A   |

### Queueing Delay Results for each time segment

#### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.66                           | 0.24                                 | 2.972                                  | A                             | A                           |
| 2   | 9.16                           | 0.61                                 | 1.992                                  | A                             | A                           |
| 3   | 3.20                           | 0.21                                 | 4.141                                  | A                             | A                           |
| 4   | 20.87                          | 1.39                                 | 3.255                                  | A                             | A                           |

#### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.17                           | 0.34                                 | 3.514                                  | A                             | A                           |
| 2   | 12.76                          | 0.85                                 | 2.327                                  | A                             | A                           |
| 3   | 4.75                           | 0.32                                 | 5.150                                  | A                             | A                           |
| 4   | 35.38                          | 2.36                                 | 4.709                                  | A                             | A                           |

#### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.29                           | 0.55                                 | 4.643                                  | A                             | A                           |
| 2   | 20.06                          | 1.34                                 | 3.013                                  | A                             | A                           |
| 3   | 8.54                           | 0.57                                 | 7.693                                  | A                             | A                           |
| 4   | 94.36                          | 6.29                                 | 11.053                                 | B                             | B                           |

#### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.56                           | 0.57                                 | 4.695                                  | A                             | A                           |
| 2   | 20.59                          | 1.37                                 | 3.025                                  | A                             | A                           |
| 3   | 8.90                           | 0.59                                 | 7.749                                  | A                             | A                           |
| 4   | 111.48                         | 7.43                                 | 12.241                                 | B                             | B                           |

#### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.47                           | 0.36                                 | 3.559                                  | A                             | A                           |
| 2   | 13.33                          | 0.89                                 | 2.336                                  | A                             | A                           |
| 3   | 5.07                           | 0.34                                 | 5.189                                  | A                             | A                           |
| 4   | 41.43                          | 2.76                                 | 5.025                                  | A                             | A                           |

#### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.83                           | 0.26                                 | 2.991                                  | A                             | A                           |
| 2   | 9.51                           | 0.63                                 | 2.001                                  | A                             | A                           |
| 3   | 3.39                           | 0.23                                 | 4.166                                  | A                             | A                           |
| 4   | 22.58                          | 1.51                                 | 3.316                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|----------|------|------|-------------|
|----------|------|------|-------------|

|         |          |                             |                                                                                                                  |
|---------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |
|---------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Forecast Background + EA2 Construction 2023, PM | Forecast Background + EA2 Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |

# Junction Network

## Junctions

| Junction | Name                       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 11       | A12, Eagle Way, Anson Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 17.97              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Anson Road  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | Eagle Way   |             |
| 4   | 4   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 5.00                             | 10.92               | 8.17                            | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.587       | 2273.381                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.686       | 2943.384                 |

The slope and intercept shown above include any corrections and adjustments.

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 1120.00                      | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1603.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 136.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2008.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 843.19                            | 850.92                              |                                  |                                        |
| 16:45-17:00  | 2   | 1206.82                           | 1250.46                             |                                  |                                        |
| 16:45-17:00  | 3   | 102.39                            | 106.38                              |                                  |                                        |
| 16:45-17:00  | 4   | 1511.73                           | 1549.16                             |                                  |                                        |
| 17:00-17:15  | 1   | 1006.86                           | 1016.09                             |                                  |                                        |
| 17:00-17:15  | 2   | 1441.06                           | 1493.17                             |                                  |                                        |
| 17:00-17:15  | 3   | 122.26                            | 127.02                              |                                  |                                        |
| 17:00-17:15  | 4   | 1805.15                           | 1849.85                             |                                  |                                        |
| 17:15-17:30  | 1   | 1233.14                           | 1244.45                             |                                  |                                        |
| 17:15-17:30  | 2   | 1764.94                           | 1828.75                             |                                  |                                        |
| 17:15-17:30  | 3   | 149.74                            | 155.57                              |                                  |                                        |
| 17:15-17:30  | 4   | 2210.85                           | 2265.59                             |                                  |                                        |
| 17:30-17:45  | 1   | 1233.14                           | 1244.45                             |                                  |                                        |
| 17:30-17:45  | 2   | 1764.94                           | 1828.75                             |                                  |                                        |
| 17:30-17:45  | 3   | 149.74                            | 155.57                              |                                  |                                        |
| 17:30-17:45  | 4   | 2210.85                           | 2265.59                             |                                  |                                        |
| 17:45-18:00  | 1   | 1006.86                           | 1016.09                             |                                  |                                        |
| 17:45-18:00  | 2   | 1441.06                           | 1493.17                             |                                  |                                        |
| 17:45-18:00  | 3   | 122.26                            | 127.02                              |                                  |                                        |
| 17:45-18:00  | 4   | 1805.15                           | 1849.85                             |                                  |                                        |
| 18:00-18:15  | 1   | 843.19                            | 850.92                              |                                  |                                        |
| 18:00-18:15  | 2   | 1206.82                           | 1250.46                             |                                  |                                        |
| 18:00-18:15  | 3   | 102.39                            | 106.38                              |                                  |                                        |
| 18:00-18:15  | 4   | 1511.73                           | 1549.16                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
| From |   | 1       | 2        | 3       | 4        |
|      | 1 | 0.000   | 321.000  | 122.000 | 677.000  |
|      | 2 | 267.000 | 0.000    | 48.000  | 1288.000 |
|      | 3 | 32.000  | 16.000   | 0.000   | 88.000   |
|      | 4 | 516.000 | 1451.000 | 41.000  | 0.000    |

## Turning Proportions (Veh) - Junction 11 (for whole period)

|      |   | To |   |   |   |
|------|---|----|---|---|---|
| From |   | 1  | 2 | 3 | 4 |
|      | 1 |    |   |   |   |
|      | 2 |    |   |   |   |
|      | 3 |    |   |   |   |
|      | 4 |    |   |   |   |

|      |   |      |      |      |      |
|------|---|------|------|------|------|
| From | 1 | 0.00 | 0.29 | 0.11 | 0.60 |
|      | 2 | 0.17 | 0.00 | 0.03 | 0.80 |
|      | 3 | 0.24 | 0.12 | 0.00 | 0.65 |
|      | 4 | 0.26 | 0.72 | 0.02 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

|      |    |       |       |       |       |
|------|----|-------|-------|-------|-------|
| From | To |       |       |       |       |
|      | 1  | 2     | 3     | 4     |       |
|      | 1  | 1.000 | 1.013 | 1.000 | 1.009 |
|      | 2  | 1.000 | 1.000 | 1.000 | 1.045 |
|      | 3  | 1.000 | 1.067 | 1.000 | 1.048 |
|      | 4  | 1.012 | 1.030 | 1.000 | 1.000 |

### Heavy Vehicle Percentages - Junction 11 (for whole period)

|      |    |     |     |     |     |
|------|----|-----|-----|-----|-----|
| From | To |     |     |     |     |
|      | 1  | 2   | 3   | 4   |     |
|      | 1  | 0.0 | 1.3 | 0.0 | 0.9 |
|      | 2  | 0.0 | 0.0 | 0.0 | 4.5 |
|      | 3  | 0.0 | 6.7 | 0.0 | 4.8 |
|      | 4  | 1.2 | 3.0 | 0.0 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.98    | 56.15         | 18.69           | F       | 1027.73                 | 1541.59                       | 522.69                         | 20.34                      | 5.81                                 | 522.71                                   | 20.34                                |
| 2   | 0.69    | 4.49          | 2.18            | A       | 1470.94                 | 2206.41                       | 121.82                         | 3.31                       | 1.35                                 | 121.82                                   | 3.31                                 |
| 3   | 0.31    | 10.91         | 0.45            | B       | 124.80                  | 187.19                        | 23.37                          | 7.49                       | 0.26                                 | 23.37                                    | 7.49                                 |
| 4   | 0.84    | 8.36          | 5.02            | A       | 1842.58                 | 2763.87                       | 241.60                         | 5.24                       | 2.68                                 | 241.62                                   | 5.25                                 |

### Main Results for each time segment

#### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 843.19                | 210.80                  | 838.64              | 611.65             | 1131.52                   | 0.00                       | 1575.07           | 1107.99                      | 0.535 | 0.00              | 1.14            | 4.858     | A   |
| 2   | 1206.82               | 301.70                  | 1203.75             | 1341.13            | 629.05                    | 0.00                       | 2771.24           | 2616.46                      | 0.435 | 0.00              | 0.77            | 2.293     | A   |
| 3   | 102.39                | 25.60                   | 101.86              | 158.16             | 1674.64                   | 0.00                       | 869.92            | 89.64                        | 0.118 | 0.00              | 0.13            | 4.684     | A   |
| 4   | 1511.73               | 377.93                  | 1506.74             | 1540.04            | 236.45                    | 0.00                       | 2713.41           | 2558.81                      | 0.557 | 0.00              | 1.25            | 2.971     | A   |

#### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1006.85               | 251.71                  | 1002.42             | 731.53             | 1353.30                   | 0.00                       | 1442.26           | 1107.99                      | 0.698 | 1.14              | 2.25            | 8.103     | A   |
| 2   | 1441.06               | 360.27                  | 1439.52             | 1603.80            | 751.92                    | 0.00                       | 2682.19           | 2616.46                      | 0.537 | 0.77              | 1.15            | 2.893     | A   |
| 3   | 122.26                | 30.57                   | 121.96              | 189.09             | 2002.34                   | 0.00                       | 704.04            | 89.64                        | 0.174 | 0.13              | 0.21            | 6.182     | A   |
| 4   | 1805.15               | 451.29                  | 1802.03             | 1841.50            | 282.81                    | 0.00                       | 2682.26           | 2558.81                      | 0.673 | 1.25              | 2.03            | 4.075     | A   |

#### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1233.14               | 308.28                  | 1186.46             | 893.53             | 1651.73                   | 0.00                       | 1263.53           | 1107.99                      | 0.976 | 2.25              | 13.92           | 35.029    | E   |
| 2   | 1764.93               | 441.23                  | 1761.02             | 1946.88            | 891.32                    | 0.00                       | 2581.15           | 2616.46                      | 0.684 | 1.15              | 2.13            | 4.368     | A   |
| 3   | 149.74                | 37.43                   | 148.84              | 226.88             | 2425.48                   | 0.00                       | 489.63            | 89.64                        | 0.306 | 0.21              | 0.43            | 10.537    | B   |
| 4   | 2210.85               | 552.71                  | 2199.42             | 2228.46            | 345.85                    | 0.00                       | 2639.91           | 2558.81                      | 0.837 | 2.03              | 4.89            | 7.972     | A   |

#### Main results: (17:30-17:45)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1233.14               | 308.28                  | 1214.04             | 897.15             | 1659.94                   | 0.00                       | 1258.61           | 1107.99                      | 0.980 | 13.92             | 18.69           | 56.152    | F   |
| 2   | 1764.93               | 441.23                  | 1764.74             | 1962.77            | 911.22                    | 0.00                       | 2566.73           | 2616.46                      | 0.688 | 2.13              | 2.18            | 4.487     | A   |
| 3   | 149.74                | 37.43                   | 149.68              | 230.22             | 2445.75                   | 0.00                       | 479.51            | 89.64                        | 0.312 | 0.43              | 0.45            | 10.911    | B   |
| 4   | 2210.85               | 552.71                  | 2210.34             | 2248.66            | 346.77                    | 0.00                       | 2639.29           | 2558.81                      | 0.838 | 4.89              | 5.02            | 8.364     | A   |

## Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1006.85               | 251.71                  | 1071.90             | 736.54             | 1364.47                   | 0.00                       | 1435.57           | 1107.99                      | 0.701 | 18.69             | 2.43            | 11.674    | B   |
| 2   | 1441.06               | 360.27                  | 1444.95             | 1634.60            | 801.79                    | 0.00                       | 2646.03           | 2616.46                      | 0.545 | 2.18              | 1.20            | 3.008     | A   |
| 3   | 122.26                | 30.57                   | 123.17              | 197.13             | 2049.61                   | 0.00                       | 680.50            | 89.64                        | 0.180 | 0.45              | 0.22            | 6.471     | A   |
| 4   | 1805.15               | 451.29                  | 1816.87             | 1888.63            | 284.15                    | 0.00                       | 2681.36           | 2558.81                      | 0.673 | 5.02              | 2.09            | 4.220     | A   |

## Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 843.19                | 210.80                  | 848.23              | 614.78             | 1137.78                   | 0.00                       | 1571.33           | 1107.99                      | 0.537 | 2.43              | 1.17            | 5.012     | A   |
| 2   | 1206.82               | 301.70                  | 1208.53             | 1349.95            | 636.06                    | 0.00                       | 2766.16           | 2616.46                      | 0.436 | 1.20              | 0.78            | 2.313     | A   |
| 3   | 102.39                | 25.60                   | 102.73              | 159.52             | 1685.07                   | 0.00                       | 864.68            | 89.64                        | 0.118 | 0.22              | 0.14            | 4.728     | A   |
| 4   | 1511.73               | 377.93                  | 1515.01             | 1550.25            | 237.55                    | 0.00                       | 2712.67           | 2558.81                      | 0.557 | 2.09              | 1.27            | 3.013     | A   |

## Queueing Delay Results for each time segment

## Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.43                          | 1.10                                 | 4.858                                  | A                             | A                           |
| 2   | 11.30                          | 0.75                                 | 2.293                                  | A                             | A                           |
| 3   | 1.94                           | 0.13                                 | 4.684                                  | A                             | A                           |
| 4   | 18.21                          | 1.21                                 | 2.971                                  | A                             | A                           |

## Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 31.74                          | 2.12                                 | 8.103                                  | A                             | A                           |
| 2   | 16.95                          | 1.13                                 | 2.893                                  | A                             | A                           |
| 3   | 3.05                           | 0.20                                 | 6.182                                  | A                             | A                           |
| 4   | 29.44                          | 1.96                                 | 4.075                                  | A                             | A                           |

## Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 147.98                         | 9.87                                 | 35.029                                 | E                             | D                           |
| 2   | 30.74                          | 2.05                                 | 4.368                                  | A                             | A                           |
| 3   | 6.22                           | 0.41                                 | 10.537                                 | B                             | B                           |
| 4   | 67.01                          | 4.47                                 | 7.972                                  | A                             | A                           |

## Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 247.68                         | 16.51                                | 56.152                                 | F                             | E                           |
| 2   | 32.43                          | 2.16                                 | 4.487                                  | A                             | A                           |
| 3   | 6.66                           | 0.44                                 | 10.911                                 | B                             | B                           |
| 4   | 74.52                          | 4.97                                 | 8.364                                  | A                             | A                           |

## Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 60.59                          | 4.04                                 | 11.674                                 | B                             | B                           |
| 2   | 18.53                          | 1.24                                 | 3.008                                  | A                             | A                           |
| 3   | 3.42                           | 0.23                                 | 6.471                                  | A                             | A                           |
| 4   | 32.92                          | 2.19                                 | 4.220                                  | A                             | A                           |

## Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 18.26                          | 1.22                                 | 5.012                                  | A                             | A                           |
| 2   | 11.86                          | 0.79                                 | 2.313                                  | A                             | A                           |

|   |       |      |       |   |   |
|---|-------|------|-------|---|---|
| 3 | 2.07  | 0.14 | 4.728 | A | A |
| 4 | 19.50 | 1.30 | 3.013 | A | A |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Forecast Background + EA2 + EA1N Construction 2023, AM | Forecast Background + EA2 + EA1N Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |

## Junction Network

### Junctions

| Junction | Name                       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 11       | A12, Eagle Way, Anson Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 8.12               | A            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Anson Road  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | Eagle Way   |             |
| 4   | 4   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 5.00                             | 10.92               | 8.17                            | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.00                               |           |



## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.587       | 2273.381                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.686       | 2943.384                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 401.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1502.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 255.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2109.00                      | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 301.89                            | 317.81                              |                                  |                                        |
| 08:00-08:15  | 2   | 1130.78                           | 1210.53                             |                                  |                                        |
| 08:00-08:15  | 3   | 191.98                            | 197.61                              |                                  |                                        |
| 08:00-08:15  | 4   | 1587.77                           | 1650.64                             |                                  |                                        |
| 08:15-08:30  | 1   | 360.49                            | 379.50                              |                                  |                                        |
| 08:15-08:30  | 2   | 1350.27                           | 1445.49                             |                                  |                                        |
| 08:15-08:30  | 3   | 229.24                            | 235.97                              |                                  |                                        |
| 08:15-08:30  | 4   | 1895.95                           | 1971.02                             |                                  |                                        |
| 08:30-08:45  | 1   | 441.51                            | 464.79                              |                                  |                                        |
| 08:30-08:45  | 2   | 1653.73                           | 1770.36                             |                                  |                                        |
| 08:30-08:45  | 3   | 280.76                            | 289.00                              |                                  |                                        |
| 08:30-08:45  | 4   | 2322.05                           | 2414.00                             |                                  |                                        |
| 08:45-09:00  | 1   | 441.51                            | 464.79                              |                                  |                                        |
| 08:45-09:00  | 2   | 1653.73                           | 1770.36                             |                                  |                                        |
| 08:45-09:00  | 3   | 280.76                            | 289.00                              |                                  |                                        |
| 08:45-09:00  | 4   | 2322.05                           | 2414.00                             |                                  |                                        |
| 09:00-09:15  | 1   | 360.49                            | 379.50                              |                                  |                                        |
| 09:00-09:15  | 2   | 1350.27                           | 1445.49                             |                                  |                                        |
| 09:00-09:15  | 3   | 229.24                            | 235.97                              |                                  |                                        |
| 09:00-09:15  | 4   | 1895.95                           | 1971.02                             |                                  |                                        |
| 09:15-09:30  | 1   | 301.89                            | 317.81                              |                                  |                                        |
| 09:15-09:30  | 2   | 1130.78                           | 1210.53                             |                                  |                                        |
| 09:15-09:30  | 3   | 191.98                            | 197.61                              |                                  |                                        |
| 09:15-09:30  | 4   | 1587.77                           | 1650.64                             |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|  |    |
|--|----|
|  | To |
|--|----|

|      |   | 1       | 2        | 3      | 4        |
|------|---|---------|----------|--------|----------|
| From | 1 | 0.000   | 75.000   | 99.000 | 227.000  |
|      | 2 | 209.000 | 0.000    | 23.000 | 1270.000 |
|      | 3 | 73.000  | 19.000   | 0.000  | 163.000  |
|      | 4 | 636.000 | 1430.000 | 43.000 | 0.000    |

### Turning Proportions (Veh) - Junction 11 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
|      |   | 1    | 2    | 3    | 4    |
| From | 1 | 0.00 | 0.19 | 0.25 | 0.57 |
|      | 2 | 0.14 | 0.00 | 0.02 | 0.85 |
|      | 3 | 0.29 | 0.07 | 0.00 | 0.64 |
|      | 4 | 0.30 | 0.68 | 0.02 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

|      |   | To    |       |       |       |
|------|---|-------|-------|-------|-------|
|      |   | 1     | 2     | 3     | 4     |
| From | 1 | 1.000 | 1.113 | 1.011 | 1.051 |
|      | 2 | 1.045 | 1.000 | 1.000 | 1.076 |
|      | 3 | 1.000 | 1.111 | 1.000 | 1.033 |
|      | 4 | 1.033 | 1.043 | 1.024 | 1.000 |

### Heavy Vehicle Percentages - Junction 11 (for whole period)

|      |   | To  |      |     |     |
|------|---|-----|------|-----|-----|
|      |   | 1   | 2    | 3   | 4   |
| From | 1 | 0.0 | 11.3 | 1.1 | 5.1 |
|      | 2 | 4.5 | 0.0  | 0.0 | 7.6 |
|      | 3 | 0.0 | 11.1 | 0.0 | 3.3 |
|      | 4 | 3.3 | 4.3  | 2.4 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.37    | 4.72          | 0.58            | A       | 367.96                  | 551.95                        | 35.11                          | 3.82                       | 0.39                                 | 35.11                                    | 3.82                                 |
| 2   | 0.58    | 3.06          | 1.40            | A       | 1378.26                 | 2067.40                       | 86.74                          | 2.52                       | 0.96                                 | 86.74                                    | 2.52                                 |
| 3   | 0.38    | 7.90          | 0.61            | A       | 233.99                  | 350.99                        | 34.59                          | 5.91                       | 0.38                                 | 34.59                                    | 5.91                                 |
| 4   | 0.89    | 12.51         | 7.75            | B       | 1935.25                 | 2902.87                       | 331.34                         | 6.85                       | 3.68                                 | 331.36                                   | 6.85                                 |

### Main Results for each time segment

#### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 301.89                | 75.47                   | 300.90              | 688.77             | 1119.15                   | 0.00                       | 1508.45           | 1111.72                      | 0.200 | 0.00              | 0.25            | 2.978     | A   |
| 2   | 1130.79               | 282.70                  | 1128.27             | 1143.18            | 276.88                    | 0.00                       | 2923.60           | 2432.35                      | 0.387 | 0.00              | 0.63            | 2.003     | A   |
| 3   | 191.98                | 47.99                   | 191.09              | 123.82             | 1281.32                   | 0.00                       | 1053.40           | 130.43                       | 0.182 | 0.00              | 0.22            | 4.170     | A   |
| 4   | 1587.76               | 396.94                  | 1581.98             | 1246.48            | 225.94                    | 0.00                       | 2676.44           | 2566.06                      | 0.593 | 0.00              | 1.45            | 3.272     | A   |

#### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 360.49                | 90.12                   | 360.08              | 823.75             | 1338.35                   | 0.00                       | 1380.92           | 1111.72                      | 0.261 | 0.25              | 0.35            | 3.524     | A   |
| 2   | 1350.27               | 337.57                  | 1349.28             | 1367.12            | 331.31                    | 0.00                       | 2884.28           | 2432.35                      | 0.468 | 0.63              | 0.88            | 2.344     | A   |
| 3   | 229.24                | 57.31                   | 228.81              | 148.13             | 1532.45                   | 0.00                       | 920.09            | 130.43                       | 0.249 | 0.22              | 0.33            | 5.204     | A   |
| 4   | 1895.94               | 473.99                  | 1891.79             | 1490.97            | 270.30                    | 0.00                       | 2646.04           | 2566.06                      | 0.717 | 1.45              | 2.48            | 4.746     | A   |

#### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 441.51                | 110.38                  | 440.64              | 1004.24            | 1629.01                   | 0.00                       | 1211.83           | 1111.72                      | 0.364 | 0.35              | 0.57            | 4.663     | A   |
| 2   | 1653.74               | 413.43                  | 1651.67             | 1664.47            | 405.17                    | 0.00                       | 2830.92           | 2432.35                      | 0.584 | 0.88              | 1.39            | 3.047     | A   |
| 3   | 280.76                | 70.19                   | 279.66              | 181.02             | 1875.81                   | 0.00                       | 737.82            | 130.43                       | 0.381 | 0.33              | 0.61            | 7.839     | A   |
| 4   | 2322.05               | 580.51                  | 2302.52             | 1824.74            | 330.72                    | 0.00                       | 2604.64           | 2566.06                      | 0.892 | 2.48              | 7.36            | 11.255    | B   |

**Main results: (08:45-09:00)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 441.51                | 110.38                  | 441.48              | 1010.26            | 1641.64                   | 0.00                       | 1204.48           | 1111.72                      | 0.367 | 0.57              | 0.58            | 4.717     | A   |
| 2   | 1653.74               | 413.43                  | 1653.71             | 1676.89            | 406.22                    | 0.00                       | 2830.16           | 2432.35                      | 0.584 | 1.39              | 1.40            | 3.059     | A   |
| 3   | 280.76                | 70.19                   | 280.74              | 181.63             | 1878.29                   | 0.00                       | 736.50            | 130.43                       | 0.381 | 0.61              | 0.61            | 7.898     | A   |
| 4   | 2322.05               | 580.51                  | 2320.49             | 1827.64            | 331.40                    | 0.00                       | 2604.18           | 2566.06                      | 0.892 | 7.36              | 7.75            | 12.514    | B   |

**Main results: (09:00-09:15)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 360.49                | 90.12                   | 361.36              | 832.11             | 1355.82                   | 0.00                       | 1370.77           | 1111.72                      | 0.263 | 0.58              | 0.36            | 3.571     | A   |
| 2   | 1350.27               | 337.57                  | 1352.33             | 1384.32            | 332.85                    | 0.00                       | 2883.17           | 2432.35                      | 0.468 | 1.40              | 0.89            | 2.356     | A   |
| 3   | 229.24                | 57.31                   | 230.34              | 149.00             | 1536.18                   | 0.00                       | 918.12            | 130.43                       | 0.250 | 0.61              | 0.34            | 5.244     | A   |
| 4   | 1895.94               | 473.99                  | 1916.64             | 1495.24            | 271.28                    | 0.00                       | 2645.38           | 2566.06                      | 0.717 | 7.75              | 2.58            | 5.077     | A   |

**Main results: (09:15-09:30)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 301.89                | 75.47                   | 302.32              | 692.72             | 1126.37                   | 0.00                       | 1504.24           | 1111.72                      | 0.201 | 0.36              | 0.25            | 2.997     | A   |
| 2   | 1130.79               | 282.70                  | 1131.79             | 1150.45            | 278.24                    | 0.00                       | 2922.61           | 2432.35                      | 0.387 | 0.89              | 0.63            | 2.011     | A   |
| 3   | 191.98                | 47.99                   | 192.42              | 124.43             | 1285.60                   | 0.00                       | 1051.13           | 130.43                       | 0.183 | 0.34              | 0.22            | 4.195     | A   |
| 4   | 1587.76               | 396.94                  | 1592.18             | 1251.11            | 226.91                    | 0.00                       | 2675.78           | 2566.06                      | 0.593 | 2.58              | 1.47            | 3.337     | A   |

**Queueing Delay Results for each time segment****Queueing Delay results: (08:00-08:15)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.67                           | 0.24                                 | 2.978                                  | A                             | A                           |
| 2   | 9.27                           | 0.62                                 | 2.003                                  | A                             | A                           |
| 3   | 3.25                           | 0.22                                 | 4.170                                  | A                             | A                           |
| 4   | 21.00                          | 1.40                                 | 3.272                                  | A                             | A                           |

**Queueing Delay results: (08:15-08:30)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.19                           | 0.35                                 | 3.524                                  | A                             | A                           |
| 2   | 12.94                          | 0.86                                 | 2.344                                  | A                             | A                           |
| 3   | 4.83                           | 0.32                                 | 5.204                                  | A                             | A                           |
| 4   | 35.70                          | 2.38                                 | 4.746                                  | A                             | A                           |

**Queueing Delay results: (08:30-08:45)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.33                           | 0.56                                 | 4.663                                  | A                             | A                           |
| 2   | 20.42                          | 1.36                                 | 3.047                                  | A                             | A                           |
| 3   | 8.76                           | 0.58                                 | 7.839                                  | A                             | A                           |
| 4   | 96.04                          | 6.40                                 | 11.255                                 | B                             | B                           |

**Queueing Delay results: (08:45-09:00)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.60                           | 0.57                                 | 4.717                                  | A                             | A                           |
| 2   | 20.96                          | 1.40                                 | 3.059                                  | A                             | A                           |
| 3   | 9.14                           | 0.61                                 | 7.898                                  | A                             | A                           |
| 4   | 113.93                         | 7.60                                 | 12.514                                 | B                             | B                           |

**Queueing Delay results: (09:00-09:15)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.49                           | 0.37                                 | 3.571                                  | A                             | A                           |
| 2   | 13.52                          | 0.90                                 | 2.356                                  | A                             | A                           |

|   |       |      |       |   |   |
|---|-------|------|-------|---|---|
| 3 | 5.17  | 0.34 | 5.244 | A | A |
| 4 | 41.94 | 2.80 | 5.077 | A | A |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.84                           | 0.26                                 | 2.997                                  | A                             | A                           |
| 2   | 9.63                           | 0.64                                 | 2.011                                  | A                             | A                           |
| 3   | 3.44                           | 0.23                                 | 4.195                                  | A                             | A                           |
| 4   | 22.74                          | 1.52                                 | 3.337                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Forecast Background + EA2 + EA1N Construction 2023, PM | Forecast Background + EA2 + EA1N Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |

## Junction Network

### Junctions

| Junction | Name                       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 11       | A12, Eagle Way, Anson Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 18.84              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Anson Road  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | Eagle Way   |             |
| 4   | 4   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 5.00                             | 10.92               | 8.17                            | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.587       | 2273.381                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.686       | 2943.384                 |

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 1120.00                      | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1606.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 136.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2019.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 843.19                            | 850.92                              |                                  |                                        |
| 16:45-17:00  | 2   | 1209.08                           | 1253.79                             |                                  |                                        |
| 16:45-17:00  | 3   | 102.39                            | 106.38                              |                                  |                                        |
| 16:45-17:00  | 4   | 1520.01                           | 1557.67                             |                                  |                                        |
| 17:00-17:15  | 1   | 1006.86                           | 1016.09                             |                                  |                                        |
| 17:00-17:15  | 2   | 1443.76                           | 1497.15                             |                                  |                                        |
| 17:00-17:15  | 3   | 122.26                            | 127.02                              |                                  |                                        |
| 17:00-17:15  | 4   | 1815.04                           | 1860.01                             |                                  |                                        |
| 17:15-17:30  | 1   | 1233.14                           | 1244.45                             |                                  |                                        |
| 17:15-17:30  | 2   | 1768.24                           | 1833.62                             |                                  |                                        |
| 17:15-17:30  | 3   | 149.74                            | 155.57                              |                                  |                                        |
| 17:15-17:30  | 4   | 2222.96                           | 2278.04                             |                                  |                                        |
| 17:30-17:45  | 1   | 1233.14                           | 1244.45                             |                                  |                                        |
| 17:30-17:45  | 2   | 1768.24                           | 1833.62                             |                                  |                                        |
| 17:30-17:45  | 3   | 149.74                            | 155.57                              |                                  |                                        |
| 17:30-17:45  | 4   | 2222.96                           | 2278.04                             |                                  |                                        |
| 17:45-18:00  | 1   | 1006.86                           | 1016.09                             |                                  |                                        |
| 17:45-18:00  | 2   | 1443.76                           | 1497.15                             |                                  |                                        |
| 17:45-18:00  | 3   | 122.26                            | 127.02                              |                                  |                                        |
| 17:45-18:00  | 4   | 1815.04                           | 1860.01                             |                                  |                                        |
| 18:00-18:15  | 1   | 843.19                            | 850.92                              |                                  |                                        |
| 18:00-18:15  | 2   | 1209.08                           | 1253.79                             |                                  |                                        |
| 18:00-18:15  | 3   | 102.39                            | 106.38                              |                                  |                                        |

|             |   |         |         |  |  |
|-------------|---|---------|---------|--|--|
| 18:00-18:15 | 4 | 1520.01 | 1557.67 |  |  |
|-------------|---|---------|---------|--|--|

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
|      |   | 1       | 2        | 3       | 4        |
| From | 1 | 0.000   | 321.000  | 122.000 | 677.000  |
|      | 2 | 267.000 | 0.000    | 48.000  | 1291.000 |
|      | 3 | 32.000  | 16.000   | 0.000   | 88.000   |
|      | 4 | 516.000 | 1461.000 | 42.000  | 0.000    |

### Turning Proportions (Veh) - Junction 11 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
|      |   | 1    | 2    | 3    | 4    |
| From | 1 | 0.00 | 0.29 | 0.11 | 0.60 |
|      | 2 | 0.17 | 0.00 | 0.03 | 0.80 |
|      | 3 | 0.24 | 0.12 | 0.00 | 0.65 |
|      | 4 | 0.26 | 0.72 | 0.02 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

|      |   | To    |       |       |       |
|------|---|-------|-------|-------|-------|
|      |   | 1     | 2     | 3     | 4     |
| From | 1 | 1.000 | 1.013 | 1.000 | 1.009 |
|      | 2 | 1.000 | 1.000 | 1.000 | 1.046 |
|      | 3 | 1.000 | 1.067 | 1.000 | 1.048 |
|      | 4 | 1.012 | 1.030 | 1.000 | 1.000 |

### Heavy Vehicle Percentages - Junction 11 (for whole period)

|      |   | To  |     |     |     |
|------|---|-----|-----|-----|-----|
|      |   | 1   | 2   | 3   | 4   |
| From | 1 | 0.0 | 1.3 | 0.0 | 0.9 |
|      | 2 | 0.0 | 0.0 | 0.0 | 4.6 |
|      | 3 | 0.0 | 6.7 | 0.0 | 4.8 |
|      | 4 | 1.2 | 3.0 | 0.0 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.99    | 59.69         | 20.04           | F       | 1027.73                 | 1541.59                       | 548.92                         | 21.36                      | 6.10                                 | 548.95                                   | 21.37                                |
| 2   | 0.69    | 4.51          | 2.19            | A       | 1473.69                 | 2210.54                       | 122.68                         | 3.33                       | 1.36                                 | 122.68                                   | 3.33                                 |
| 3   | 0.31    | 10.97         | 0.45            | B       | 124.80                  | 187.19                        | 23.47                          | 7.52                       | 0.26                                 | 23.47                                    | 7.52                                 |
| 4   | 0.84    | 8.60          | 5.19            | A       | 1852.66                 | 2778.99                       | 247.52                         | 5.34                       | 2.75                                 | 247.54                                   | 5.34                                 |

### Main Results for each time segment

#### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 843.19                | 210.80                  | 838.61              | 611.64             | 1139.76                   | 0.00                       | 1570.16           | 1105.57                      | 0.537 | 0.00              | 1.15            | 4.891     | A   |
| 2   | 1209.08               | 302.27                  | 1205.99             | 1348.59            | 629.78                    | 0.00                       | 2768.53           | 2614.93                      | 0.437 | 0.00              | 0.77            | 2.299     | A   |
| 3   | 102.39                | 25.60                   | 101.86              | 158.91             | 1676.87                   | 0.00                       | 868.30            | 90.00                        | 0.118 | 0.00              | 0.13            | 4.694     | A   |
| 4   | 1520.00               | 380.00                  | 1514.95             | 1542.27            | 236.45                    | 0.00                       | 2713.36           | 2559.39                      | 0.560 | 0.00              | 1.26            | 2.992     | A   |

#### Main results: (17:00-17:15)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1006.85               | 251.71                  | 1002.33             | 731.52             | 1363.13                   | 0.00                       | 1436.38           | 1105.57                      | 0.701 | 1.15              | 2.28            | 8.208     | A   |
| 2   | 1443.76               | 360.94                  | 1442.20             | 1612.72            | 752.75                    | 0.00                       | 2679.47           | 2614.93                      | 0.539 | 0.77              | 1.16            | 2.905     | A   |
| 3   | 122.26                | 30.57                   | 121.96              | 189.98             | 2004.98                   | 0.00                       | 702.11            | 90.00                        | 0.174 | 0.13              | 0.21            | 6.202     | A   |
| 4   | 1815.03               | 453.76                  | 1811.83             | 1844.12            | 282.81                    | 0.00                       | 2682.21           | 2559.39                      | 0.677 | 1.26              | 2.06            | 4.121     | A   |

## Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1233.14               | 308.28                  | 1183.75             | 893.42             | 1663.47                   | 0.00                       | 1256.52           | 1105.57                      | 0.981 | 2.28              | 14.62           | 36.416    | E   |
| 2   | 1768.23               | 442.06                  | 1764.29             | 1956.75            | 890.48                    | 0.00                       | 2579.73           | 2614.93                      | 0.685 | 1.16              | 2.15            | 4.394     | A   |
| 3   | 149.74                | 37.43                   | 148.83              | 227.67             | 2427.11                   | 0.00                       | 488.06            | 90.00                        | 0.307 | 0.21              | 0.44            | 10.584    | B   |
| 4   | 2222.95               | 555.74                  | 2211.03             | 2230.10            | 345.85                    | 0.00                       | 2639.86           | 2559.39                      | 0.842 | 2.06              | 5.04            | 8.175     | A   |

## Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1233.14               | 308.28                  | 1211.45             | 897.14             | 1672.02                   | 0.00                       | 1251.40           | 1105.57                      | 0.985 | 14.62             | 20.04           | 59.687    | F   |
| 2   | 1768.23               | 442.06                  | 1768.04             | 1973.00            | 910.47                    | 0.00                       | 2565.24           | 2614.93                      | 0.689 | 2.15              | 2.19            | 4.514     | A   |
| 3   | 149.74                | 37.43                   | 149.68              | 231.04             | 2447.47                   | 0.00                       | 477.89            | 90.00                        | 0.313 | 0.44              | 0.45            | 10.965    | B   |
| 4   | 2222.95               | 555.74                  | 2222.39             | 2250.39            | 346.77                    | 0.00                       | 2639.24           | 2559.39                      | 0.842 | 5.04              | 5.19            | 8.605     | A   |

## Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1006.85               | 251.71                  | 1077.15             | 736.66             | 1374.77                   | 0.00                       | 1429.41           | 1105.57                      | 0.704 | 20.04             | 2.47            | 12.277    | B   |
| 2   | 1443.76               | 360.94                  | 1447.68             | 1645.47            | 806.44                    | 0.00                       | 2640.56           | 2614.93                      | 0.547 | 2.19              | 1.22            | 3.027     | A   |
| 3   | 122.26                | 30.57                   | 123.17              | 198.61             | 2055.52                   | 0.00                       | 676.95            | 90.00                        | 0.181 | 0.45              | 0.22            | 6.513     | A   |
| 4   | 1815.03               | 453.76                  | 1827.27             | 1894.53            | 284.15                    | 0.00                       | 2681.31           | 2559.39                      | 0.677 | 5.19              | 2.12            | 4.275     | A   |

## Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 843.19                | 210.80                  | 848.35              | 614.80             | 1146.13                   | 0.00                       | 1566.34           | 1105.57                      | 0.538 | 2.47              | 1.18            | 5.050     | A   |
| 2   | 1209.08               | 302.27                  | 1210.81             | 1357.59            | 636.90                    | 0.00                       | 2763.37           | 2614.93                      | 0.438 | 1.22              | 0.78            | 2.320     | A   |
| 3   | 102.39                | 25.60                   | 102.74              | 160.29             | 1687.42                   | 0.00                       | 862.99            | 90.00                        | 0.119 | 0.22              | 0.14            | 4.738     | A   |
| 4   | 1520.00               | 380.00                  | 1523.37             | 1552.59            | 237.56                    | 0.00                       | 2712.61           | 2559.39                      | 0.560 | 2.12              | 1.28            | 3.037     | A   |

## Queueing Delay Results for each time segment

## Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.53                          | 1.10                                 | 4.891                                  | A                             | A                           |
| 2   | 11.36                          | 0.76                                 | 2.299                                  | A                             | A                           |
| 3   | 1.94                           | 0.13                                 | 4.694                                  | A                             | A                           |
| 4   | 18.43                          | 1.23                                 | 2.992                                  | A                             | A                           |

## Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 32.12                          | 2.14                                 | 8.208                                  | A                             | A                           |
| 2   | 17.05                          | 1.14                                 | 2.905                                  | A                             | A                           |
| 3   | 3.06                           | 0.20                                 | 6.202                                  | A                             | A                           |
| 4   | 29.91                          | 1.99                                 | 4.121                                  | A                             | A                           |

## Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 153.62                         | 10.24                                | 36.416                                 | E                             | D                           |
| 2   | 30.96                          | 2.06                                 | 4.394                                  | A                             | A                           |
| 3   | 6.25                           | 0.42                                 | 10.584                                 | B                             | B                           |
| 4   | 68.93                          | 4.60                                 | 8.175                                  | A                             | A                           |

## Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 263.20                         | 17.55                                | 59.687                                 | F                             | E                           |

|   |       |      |        |   |   |
|---|-------|------|--------|---|---|
| 2 | 32.68 | 2.18 | 4.514  | A | A |
| 3 | 6.69  | 0.45 | 10.965 | B | B |
| 4 | 76.95 | 5.13 | 8.605  | A | A |

#### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 65.04                          | 4.34                                 | 12.277                                 | B                             | B                           |
| 2   | 18.70                          | 1.25                                 | 3.027                                  | A                             | A                           |
| 3   | 3.44                           | 0.23                                 | 6.513                                  | A                             | A                           |
| 4   | 33.55                          | 2.24                                 | 4.275                                  | A                             | A                           |

#### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 18.40                          | 1.23                                 | 5.050                                  | A                             | A                           |
| 2   | 11.92                          | 0.79                                 | 2.320                                  | A                             | A                           |
| 3   | 2.08                           | 0.14                                 | 4.738                                  | A                             | A                           |
| 4   | 19.75                          | 1.32                                 | 3.037                                  | A                             | A                           |

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

### Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Background 2019, AM | Background 2019 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |

## Junction Network

### Junctions

| Junction | Name                       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 11       | A12, Eagle Way, Anson Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 5.64               | A            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Anson Road  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | Eagle Way   |             |
| 4   | 4   | A12 (north) |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |



|   |      |          |  |      |
|---|------|----------|--|------|
| 2 | 0.00 | 99999.00 |  | 0.00 |
| 3 | 0.00 | 99999.00 |  | 0.00 |
| 4 | 0.00 | 99999.00 |  | 0.00 |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 5.00                             | 10.92               | 8.17                            | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.587       | 2273.381                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.686       | 2943.384                 |

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 380.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1372.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 235.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1981.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 286.08                            | 301.16                              |                                  |                                        |
| 08:00-08:15  | 2   | 1032.91                           | 1098.60                             |                                  |                                        |
| 08:00-08:15  | 3   | 176.92                            | 182.21                              |                                  |                                        |
| 08:00-08:15  | 4   | 1491.40                           | 1541.35                             |                                  |                                        |
| 08:15-08:30  | 1   | 341.61                            | 359.61                              |                                  |                                        |
| 08:15-08:30  | 2   | 1233.40                           | 1311.83                             |                                  |                                        |
| 08:15-08:30  | 3   | 211.26                            | 217.58                              |                                  |                                        |
| 08:15-08:30  | 4   | 1780.88                           | 1840.52                             |                                  |                                        |
| 08:30-08:45  | 1   | 418.39                            | 440.43                              |                                  |                                        |
| 08:30-08:45  | 2   | 1510.60                           | 1606.66                             |                                  |                                        |
| 08:30-08:45  | 3   | 258.74                            | 266.48                              |                                  |                                        |
| 08:30-08:45  | 4   | 2181.12                           | 2254.17                             |                                  |                                        |
| 08:45-09:00  | 1   | 418.39                            | 440.43                              |                                  |                                        |
| 08:45-09:00  | 2   | 1510.60                           | 1606.66                             |                                  |                                        |
| 08:45-09:00  | 3   | 258.74                            | 266.48                              |                                  |                                        |
| 08:45-09:00  | 4   | 2181.12                           | 2254.17                             |                                  |                                        |
| 09:00-09:15  | 1   | 341.61                            | 359.61                              |                                  |                                        |
| 09:00-09:15  | 2   | 1233.40                           | 1311.83                             |                                  |                                        |
| 09:00-09:15  | 3   | 211.26                            | 217.58                              |                                  |                                        |

|             |   |         |         |  |  |
|-------------|---|---------|---------|--|--|
| 09:00-09:15 | 4 | 1780.88 | 1840.52 |  |  |
| 09:15-09:30 | 1 | 286.08  | 301.16  |  |  |
| 09:15-09:30 | 2 | 1032.91 | 1098.60 |  |  |
| 09:15-09:30 | 3 | 176.92  | 182.21  |  |  |
| 09:15-09:30 | 4 | 1491.40 | 1541.35 |  |  |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|      |   | To      |          |        |          |
|------|---|---------|----------|--------|----------|
|      |   | 1       | 2        | 3      | 4        |
| From | 1 | 0.000   | 71.000   | 94.000 | 215.000  |
|      | 2 | 198.000 | 0.000    | 22.000 | 1152.000 |
|      | 3 | 69.000  | 18.000   | 0.000  | 148.000  |
|      | 4 | 601.000 | 1339.000 | 41.000 | 0.000    |

### Turning Proportions (Veh) - Junction 11 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
|      |   | 1    | 2    | 3    | 4    |
| From | 1 | 0.00 | 0.19 | 0.25 | 0.57 |
|      | 2 | 0.14 | 0.00 | 0.02 | 0.84 |
|      | 3 | 0.29 | 0.08 | 0.00 | 0.63 |
|      | 4 | 0.30 | 0.68 | 0.02 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

|      |   | To    |       |       |       |
|------|---|-------|-------|-------|-------|
|      |   | 1     | 2     | 3     | 4     |
| From | 1 | 1.000 | 1.113 | 1.011 | 1.051 |
|      | 2 | 1.045 | 1.000 | 1.000 | 1.068 |
|      | 3 | 1.000 | 1.111 | 1.000 | 1.034 |
|      | 4 | 1.033 | 1.034 | 1.024 | 1.000 |

### Heavy Vehicle Percentages - Junction 11 (for whole period)

|      |   | To  |      |     |     |
|------|---|-----|------|-----|-----|
|      |   | 1   | 2    | 3   | 4   |
| From | 1 | 0.0 | 11.3 | 1.1 | 5.1 |
|      | 2 | 4.5 | 0.0  | 0.0 | 6.8 |
|      | 3 | 0.0 | 11.1 | 0.0 | 3.4 |
|      | 4 | 3.3 | 3.4  | 2.4 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.33    | 4.22          | 0.49            | A       | 348.69                  | 523.04                        | 30.60                          | 3.51                       | 0.34                                 | 30.60                                    | 3.51                                 |
| 2   | 0.53    | 2.66          | 1.11            | A       | 1258.97                 | 1888.46                       | 71.14                          | 2.26                       | 0.79                                 | 71.14                                    | 2.26                                 |
| 3   | 0.31    | 6.37          | 0.46            | A       | 215.64                  | 323.46                        | 27.24                          | 5.05                       | 0.30                                 | 27.24                                    | 5.05                                 |
| 4   | 0.83    | 7.96          | 4.72            | A       | 1817.80                 | 2726.70                       | 231.20                         | 5.09                       | 2.57                                 | 231.21                                   | 5.09                                 |

### Main Results for each time segment

#### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 286.08                | 71.52                   | 285.18              | 651.46             | 1049.02                   | 0.00                       | 1554.33           | 1121.22                      | 0.184 | 0.00              | 0.22            | 2.835     | A   |
| 2   | 1032.91               | 258.23                  | 1030.77             | 1071.54            | 262.67                    | 0.00                       | 2952.98           | 2441.80                      | 0.350 | 0.00              | 0.54            | 1.871     | A   |

|   |         |        |         |         |         |      |         |         |       |      |      |       |   |
|---|---------|--------|---------|---------|---------|------|---------|---------|-------|------|------|-------|---|
| 3 | 176.92  | 44.23  | 176.17  | 117.84  | 1175.59 | 0.00 | 1112.50 | 132.05  | 0.159 | 0.00 | 0.19 | 3.841 | A |
| 4 | 1491.40 | 372.85 | 1486.50 | 1137.79 | 213.98  | 0.00 | 2700.51 | 2570.32 | 0.552 | 0.00 | 1.22 | 2.953 | A |

**Main results: (08:15-08:30)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 341.61                | 85.40                   | 341.27              | 779.20             | 1254.66                   | 0.00                       | 1435.68           | 1121.22                      | 0.238 | 0.22              | 0.31            | 3.289     | A   |
| 2   | 1233.40               | 308.35                  | 1232.62             | 1281.63            | 314.30                    | 0.00                       | 2915.44           | 2441.80                      | 0.423 | 0.54              | 0.73            | 2.138     | A   |
| 3   | 211.26                | 52.82                   | 210.94              | 140.98             | 1405.94                   | 0.00                       | 990.99            | 132.05                       | 0.213 | 0.19              | 0.27            | 4.613     | A   |
| 4   | 1780.88               | 445.22                  | 1777.88             | 1360.90            | 255.98                    | 0.00                       | 2671.55           | 2570.32                      | 0.667 | 1.22              | 1.97            | 4.014     | A   |

**Main results: (08:30-08:45)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 418.39                | 104.60                  | 417.69              | 952.05             | 1531.82                   | 0.00                       | 1275.77           | 1121.22                      | 0.328 | 0.31              | 0.48            | 4.191     | A   |
| 2   | 1510.60               | 377.65                  | 1509.09             | 1564.94            | 384.57                    | 0.00                       | 2864.35           | 2441.80                      | 0.527 | 0.73              | 1.11            | 2.654     | A   |
| 3   | 258.74                | 64.69                   | 258.01              | 172.45             | 1721.21                   | 0.00                       | 824.68            | 132.05                       | 0.314 | 0.27              | 0.45            | 6.345     | A   |
| 4   | 2181.12               | 545.28                  | 2170.57             | 1665.92            | 313.30                    | 0.00                       | 2632.04           | 2570.32                      | 0.829 | 1.97              | 4.61            | 7.631     | A   |

**Main results: (08:45-09:00)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 418.39                | 104.60                  | 418.37              | 955.55             | 1538.92                   | 0.00                       | 1271.67           | 1121.22                      | 0.329 | 0.48              | 0.49            | 4.218     | A   |
| 2   | 1510.60               | 377.65                  | 1510.59             | 1571.96            | 385.34                    | 0.00                       | 2863.80           | 2441.80                      | 0.527 | 1.11              | 1.11            | 2.659     | A   |
| 3   | 258.74                | 64.69                   | 258.73              | 172.85             | 1723.08                   | 0.00                       | 823.70            | 132.05                       | 0.314 | 0.45              | 0.46            | 6.371     | A   |
| 4   | 2181.12               | 545.28                  | 2180.68             | 1668.01            | 313.79                    | 0.00                       | 2631.71           | 2570.32                      | 0.829 | 4.61              | 4.72            | 7.961     | A   |

**Main results: (09:00-09:15)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 341.61                | 85.40                   | 342.30              | 784.01             | 1264.33                   | 0.00                       | 1430.10           | 1121.22                      | 0.239 | 0.49              | 0.32            | 3.313     | A   |
| 2   | 1233.40               | 308.35                  | 1234.90             | 1291.21            | 315.43                    | 0.00                       | 2914.62           | 2441.80                      | 0.423 | 1.11              | 0.74            | 2.144     | A   |
| 3   | 211.26                | 52.82                   | 211.99              | 141.56             | 1408.78                   | 0.00                       | 989.50            | 132.05                       | 0.214 | 0.46              | 0.27            | 4.634     | A   |
| 4   | 1780.88               | 445.22                  | 1791.65             | 1364.07            | 256.70                    | 0.00                       | 2671.06           | 2570.32                      | 0.667 | 4.72              | 2.03            | 4.143     | A   |

**Main results: (09:15-09:30)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 286.08                | 71.52                   | 286.44              | 654.64             | 1054.70                   | 0.00                       | 1551.06           | 1121.22                      | 0.184 | 0.32              | 0.23            | 2.849     | A   |
| 2   | 1032.91               | 258.23                  | 1033.70             | 1077.28            | 263.85                    | 0.00                       | 2952.12           | 2441.80                      | 0.350 | 0.74              | 0.54            | 1.879     | A   |
| 3   | 176.92                | 44.23                   | 177.25              | 118.36             | 1179.19                   | 0.00                       | 1110.61           | 132.05                       | 0.159 | 0.27              | 0.19            | 3.858     | A   |
| 4   | 1491.40               | 372.85                  | 1494.54             | 1141.64            | 214.80                    | 0.00                       | 2699.94           | 2570.32                      | 0.552 | 2.03              | 1.24            | 2.995     | A   |

**Queueing Delay Results for each time segment****Queueing Delay results: (08:00-08:15)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.31                           | 0.22                                 | 2.835                                  | A                             | A                           |
| 2   | 7.93                           | 0.53                                 | 1.871                                  | A                             | A                           |
| 3   | 2.76                           | 0.18                                 | 3.841                                  | A                             | A                           |
| 4   | 17.87                          | 1.19                                 | 2.953                                  | A                             | A                           |

**Queueing Delay results: (08:15-08:30)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.59                           | 0.31                                 | 3.289                                  | A                             | A                           |
| 2   | 10.81                          | 0.72                                 | 2.138                                  | A                             | A                           |
| 3   | 3.96                           | 0.26                                 | 4.613                                  | A                             | A                           |
| 4   | 28.64                          | 1.91                                 | 4.014                                  | A                             | A                           |

**Queueing Delay results: (08:30-08:45)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.12                           | 0.47                                 | 4.191                                  | A                             | A                           |
| 2   | 16.32                          | 1.09                                 | 2.654                                  | A                             | A                           |
| 3   | 6.60                           | 0.44                                 | 6.345                                  | A                             | A                           |
| 4   | 63.55                          | 4.24                                 | 7.631                                  | A                             | A                           |

**Queueing Delay results: (08:45-09:00)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.30                           | 0.49                                 | 4.218                                  | A                             | A                           |
| 2   | 16.67                          | 1.11                                 | 2.659                                  | A                             | A                           |
| 3   | 6.82                           | 0.45                                 | 6.371                                  | A                             | A                           |
| 4   | 70.17                          | 4.68                                 | 7.961                                  | A                             | A                           |

**Queueing Delay results: (09:00-09:15)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.81                           | 0.32                                 | 3.313                                  | A                             | A                           |
| 2   | 11.22                          | 0.75                                 | 2.144                                  | A                             | A                           |
| 3   | 4.19                           | 0.28                                 | 4.634                                  | A                             | A                           |
| 4   | 31.86                          | 2.12                                 | 4.143                                  | A                             | A                           |

**Queueing Delay results: (09:15-09:30)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.45                           | 0.23                                 | 2.849                                  | A                             | A                           |
| 2   | 8.20                           | 0.55                                 | 1.879                                  | A                             | A                           |
| 3   | 2.91                           | 0.19                                 | 3.858                                  | A                             | A                           |
| 4   | 19.11                          | 1.27                                 | 2.995                                  | A                             | A                           |

## Existing Layout - Background 2019, PM

**Data Errors and Warnings**

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

**Analysis Set Details**

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set(s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                        |        | 100.000                         | 100.000                             |                            |

**Demand Set Details**

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Relationship |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|--------------|
| Background 2019, PM | Background 2019 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |              |

## Junction Network

**Junctions**

| Junction | Name                       | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|----------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 11       | A12, Eagle Way, Anson Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 8.17               | A            |

**Junction Network Options**

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

**Arms**

| Arm | Arm | Name        | Description |
|-----|-----|-------------|-------------|
| 1   | 1   | Anson Road  |             |
| 2   | 2   | A12 (south) |             |
| 3   | 3   | Eagle Way   |             |
| 4   | 4   | A12 (north) |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 5.00                             | 10.92               | 8.17                            | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.587       | 2273.381                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.686       | 2943.384                 |

*The slope and intercept shown above include any corrections and adjustments.*

# Traffic Flows

## Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

# Entry Flows

## General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 1057.00                      | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1504.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 128.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1852.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 795.77                            | 803.06                              |                                  |                                        |
| 16:45-17:00  | 2   | 1132.29                           | 1165.00                             |                                  |                                        |
| 16:45-17:00  | 3   | 96.37                             | 100.12                              |                                  |                                        |
| 16:45-17:00  | 4   | 1394.28                           | 1420.73                             |                                  |                                        |
| 17:00-17:15  | 1   | 950.22                            | 958.93                              |                                  |                                        |
| 17:00-17:15  | 2   | 1352.07                           | 1391.13                             |                                  |                                        |
| 17:00-17:15  | 3   | 115.07                            | 119.55                              |                                  |                                        |
| 17:00-17:15  | 4   | 1664.91                           | 1696.49                             |                                  |                                        |
| 17:15-17:30  | 1   | 1163.78                           | 1174.45                             |                                  |                                        |
| 17:15-17:30  | 2   | 1655.93                           | 1703.78                             |                                  |                                        |
| 17:15-17:30  | 3   | 140.93                            | 146.42                              |                                  |                                        |
| 17:15-17:30  | 4   | 2039.09                           | 2077.76                             |                                  |                                        |
| 17:30-17:45  | 1   | 1163.78                           | 1174.45                             |                                  |                                        |
| 17:30-17:45  | 2   | 1655.93                           | 1703.78                             |                                  |                                        |
| 17:30-17:45  | 3   | 140.93                            | 146.42                              |                                  |                                        |
| 17:30-17:45  | 4   | 2039.09                           | 2077.76                             |                                  |                                        |

|             |   |         |         |  |  |
|-------------|---|---------|---------|--|--|
| 17:45-18:00 | 1 | 950.22  | 958.93  |  |  |
| 17:45-18:00 | 2 | 1352.07 | 1391.13 |  |  |
| 17:45-18:00 | 3 | 115.07  | 119.55  |  |  |
| 17:45-18:00 | 4 | 1664.91 | 1696.49 |  |  |
| 18:00-18:15 | 1 | 795.77  | 803.06  |  |  |
| 18:00-18:15 | 2 | 1132.29 | 1165.00 |  |  |
| 18:00-18:15 | 3 | 96.37   | 100.12  |  |  |
| 18:00-18:15 | 4 | 1394.28 | 1420.73 |  |  |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 11 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
|      |   | 1       | 2        | 3       | 4        |
| From | 1 | 0.000   | 303.000  | 115.000 | 639.000  |
|      | 2 | 252.000 | 0.000    | 45.000  | 1207.000 |
|      | 3 | 30.000  | 15.000   | 0.000   | 83.000   |
|      | 4 | 487.000 | 1331.000 | 34.000  | 0.000    |

### Turning Proportions (Veh) - Junction 11 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
|      |   | 1    | 2    | 3    | 4    |
| From | 1 | 0.00 | 0.29 | 0.11 | 0.60 |
|      | 2 | 0.17 | 0.00 | 0.03 | 0.80 |
|      | 3 | 0.23 | 0.12 | 0.00 | 0.65 |
|      | 4 | 0.26 | 0.72 | 0.02 | 0.00 |

## Vehicle Mix

### Average PCU Per Vehicle - Junction 11 (for whole period)

|      |   | To    |       |       |       |
|------|---|-------|-------|-------|-------|
|      |   | 1     | 2     | 3     | 4     |
| From | 1 | 1.000 | 1.013 | 1.000 | 1.009 |
|      | 2 | 1.000 | 1.000 | 1.000 | 1.036 |
|      | 3 | 1.000 | 1.067 | 1.000 | 1.048 |
|      | 4 | 1.012 | 1.022 | 1.000 | 1.000 |

### Heavy Vehicle Percentages - Junction 11 (for whole period)

|      |   | To  |     |     |     |
|------|---|-----|-----|-----|-----|
|      |   | 1   | 2   | 3   | 4   |
| From | 1 | 0.0 | 1.3 | 0.0 | 0.9 |
|      | 2 | 0.0 | 0.0 | 0.0 | 3.6 |
|      | 3 | 0.0 | 6.7 | 0.0 | 4.8 |
|      | 4 | 1.2 | 2.2 | 0.0 | 0.0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.86    | 18.86         | 5.82            | C       | 969.92                  | 1454.88                       | 235.54                         | 9.71                       | 2.62                                 | 235.56                                   | 9.71                                 |
| 2   | 0.63    | 3.74          | 1.71            | A       | 1380.10                 | 2070.15                       | 99.81                          | 2.89                       | 1.11                                 | 99.82                                    | 2.89                                 |
| 3   | 0.25    | 8.70          | 0.34            | A       | 117.45                  | 176.18                        | 18.67                          | 6.36                       | 0.21                                 | 18.67                                    | 6.36                                 |
| 4   | 0.76    | 5.72          | 3.20            | A       | 1699.42                 | 2549.13                       | 171.75                         | 4.04                       | 1.91                                 | 171.76                                   | 4.04                                 |

### Main Results for each time segment

#### Main results: (16:45-17:00)

| Arm | Total Demand | Junction Arrivals | Entry Flow | Exit Flow | Circulating | Pedestrian Demand | Capacity | Saturation Capacity | RFC | Start Queue | End Queue | Delay | LOS |
|-----|--------------|-------------------|------------|-----------|-------------|-------------------|----------|---------------------|-----|-------------|-----------|-------|-----|
|-----|--------------|-------------------|------------|-----------|-------------|-------------------|----------|---------------------|-----|-------------|-----------|-------|-----|

|   | (Veh/hr) | (Veh)  | (Veh/hr) | (Veh/hr) | Flow (Veh/hr) | (Ped/hr) | (Veh/hr) | (Veh/hr) |       | (Veh) | (Veh) | (s)   |   |
|---|----------|--------|----------|----------|---------------|----------|----------|----------|-------|-------|-------|-------|---|
| 1 | 795.76   | 198.94 | 792.01   | 577.30   | 1035.84       | 0.00     | 1636.98  | 1120.71  | 0.486 | 0.00  | 0.94  | 4.242 | A |
| 2 | 1132.29  | 283.07 | 1129.62  | 1237.36  | 590.50        | 0.00     | 2818.94  | 2632.03  | 0.402 | 0.00  | 0.67  | 2.127 | A |
| 3 | 96.36    | 24.09  | 95.90    | 145.49   | 1574.63       | 0.00     | 924.58   | 87.46    | 0.104 | 0.00  | 0.12  | 4.342 | A |
| 4 | 1394.28  | 348.57 | 1390.15  | 1447.55  | 222.99        | 0.00     | 2737.93  | 2570.46  | 0.509 | 0.00  | 1.03  | 2.664 | A |

**Main results: (17:00-17:15)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 950.22                | 237.55                  | 947.37              | 690.48             | 1238.94                   | 0.00                       | 1516.24           | 1120.71                      | 0.627 | 0.94              | 1.65            | 6.297     | A   |
| 2   | 1352.07               | 338.02                  | 1350.85             | 1479.99            | 706.32                    | 0.00                       | 2734.39           | 2632.03                      | 0.494 | 0.67              | 0.97            | 2.599     | A   |
| 3   | 115.07                | 28.77                   | 114.83              | 174.02             | 1883.16                   | 0.00                       | 769.21            | 87.46                        | 0.150 | 0.12              | 0.17            | 5.500     | A   |
| 4   | 1664.90               | 416.23                  | 1662.71             | 1731.29            | 266.71                    | 0.00                       | 2708.39           | 2570.46                      | 0.615 | 1.03              | 1.58            | 3.435     | A   |

**Main results: (17:15-17:30)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1163.78               | 290.94                  | 1148.60             | 844.39             | 1514.67                   | 0.00                       | 1352.34           | 1120.71                      | 0.861 | 1.65              | 5.44            | 16.576    | C   |
| 2   | 1655.94               | 413.98                  | 1653.06             | 1806.62            | 856.66                    | 0.00                       | 2624.66           | 2632.03                      | 0.631 | 0.97              | 1.69            | 3.694     | A   |
| 3   | 140.93                | 35.23                   | 140.30              | 211.74             | 2297.98                   | 0.00                       | 560.27            | 87.46                        | 0.252 | 0.17              | 0.33            | 8.559     | A   |
| 4   | 2039.08               | 509.77                  | 2032.77             | 2111.98            | 326.30                    | 0.00                       | 2668.13           | 2570.46                      | 0.764 | 1.58              | 3.16            | 5.610     | A   |

**Main results: (17:30-17:45)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 1163.78               | 290.94                  | 1162.27             | 846.62             | 1519.28                   | 0.00                       | 1349.60           | 1120.71                      | 0.862 | 5.44              | 5.82            | 18.863    | C   |
| 2   | 1655.94               | 413.98                  | 1655.86             | 1815.03            | 866.53                    | 0.00                       | 2617.45           | 2632.03                      | 0.633 | 1.69              | 1.71            | 3.743     | A   |
| 3   | 140.93                | 35.23                   | 140.91              | 213.43             | 2308.95                   | 0.00                       | 554.79            | 87.46                        | 0.254 | 0.33              | 0.34            | 8.698     | A   |
| 4   | 2039.08               | 509.77                  | 2038.92             | 2122.88            | 326.98                    | 0.00                       | 2667.66           | 2570.46                      | 0.764 | 3.16              | 3.20            | 5.722     | A   |

**Main results: (17:45-18:00)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 950.22                | 237.55                  | 966.60              | 693.62             | 1245.35                   | 0.00                       | 1512.43           | 1120.71                      | 0.628 | 5.82              | 1.72            | 6.785     | A   |
| 2   | 1352.07               | 338.02                  | 1354.94             | 1491.75            | 720.20                    | 0.00                       | 2724.26           | 2632.03                      | 0.496 | 1.71              | 0.99            | 2.634     | A   |
| 3   | 115.07                | 28.77                   | 115.70              | 176.39             | 1898.75                   | 0.00                       | 761.43            | 87.46                        | 0.151 | 0.34              | 0.18            | 5.579     | A   |
| 4   | 1664.90               | 416.23                  | 1671.26             | 1746.76            | 267.70                    | 0.00                       | 2707.71           | 2570.46                      | 0.615 | 3.20              | 1.61            | 3.496     | A   |

**Main results: (18:00-18:15)**

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 795.76                | 198.94                  | 798.82              | 579.81             | 1040.64                   | 0.00                       | 1634.12           | 1120.71                      | 0.487 | 1.72              | 0.96            | 4.325     | A   |
| 2   | 1132.29               | 283.07                  | 1133.55             | 1244.00            | 595.47                    | 0.00                       | 2815.31           | 2632.03                      | 0.402 | 0.99              | 0.68            | 2.143     | A   |
| 3   | 96.36                 | 24.09                   | 96.61               | 146.47             | 1582.56                   | 0.00                       | 920.60            | 87.46                        | 0.105 | 0.18              | 0.12            | 4.371     | A   |
| 4   | 1394.28               | 348.57                  | 1396.55             | 1455.27            | 223.90                    | 0.00                       | 2737.31           | 2570.46                      | 0.509 | 1.61              | 1.04            | 2.689     | A   |

**Queueing Delay Results for each time segment****Queueing Delay results: (16:45-17:00)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.60                          | 0.91                                 | 4.242                                  | A                             | A                           |
| 2   | 9.86                           | 0.66                                 | 2.127                                  | A                             | A                           |
| 3   | 1.70                           | 0.11                                 | 4.342                                  | A                             | A                           |
| 4   | 15.11                          | 1.01                                 | 2.664                                  | A                             | A                           |

**Queueing Delay results: (17:00-17:15)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 23.69                          | 1.58                                 | 6.297                                  | A                             | A                           |
| 2   | 14.34                          | 0.96                                 | 2.599                                  | A                             | A                           |
| 3   | 2.57                           | 0.17                                 | 5.500                                  | A                             | A                           |
| 4   | 23.08                          | 1.54                                 | 3.435                                  | A                             | A                           |

**Queueing Delay results: (17:15-17:30)**

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 70.04                          | 4.67                                 | 16.576                                 | C                             | B                           |
| 2   | 24.60                          | 1.64                                 | 3.694                                  | A                             | A                           |

|   |       |      |       |   |   |
|---|-------|------|-------|---|---|
| 3 | 4.81  | 0.32 | 8.559 | A | A |
| 4 | 44.81 | 2.99 | 5.610 | A | A |

#### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 85.03                          | 5.67                                 | 18.863                                 | C                             | B                           |
| 2   | 25.55                          | 1.70                                 | 3.743                                  | A                             | A                           |
| 3   | 5.04                           | 0.34                                 | 8.698                                  | A                             | A                           |
| 4   | 47.77                          | 3.18                                 | 5.722                                  | A                             | A                           |

#### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 28.37                          | 1.89                                 | 6.785                                  | A                             | A                           |
| 2   | 15.18                          | 1.01                                 | 2.634                                  | A                             | A                           |
| 3   | 2.76                           | 0.18                                 | 5.579                                  | A                             | A                           |
| 4   | 24.98                          | 1.67                                 | 3.496                                  | A                             | A                           |

#### Queueing Delay results: (18:00-18:15)

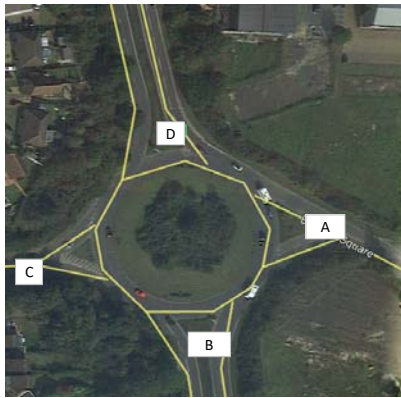
| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 14.81                          | 0.99                                 | 4.325                                  | A                             | A                           |
| 2   | 10.28                          | 0.69                                 | 2.143                                  | A                             | A                           |
| 3   | 1.80                           | 0.12                                 | 4.371                                  | A                             | A                           |
| 4   | 15.99                          | 1.07                                 | 2.689                                  | A                             | A                           |



# **East Anglia TWO Offshore Windfarm**

Junction 12

# Junction 12 - A12 / Adastral Park / Eagle Way Junction



## Notes

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Barrack Square |
| -    | B   | A12 (north)    |
| -    | C   | Eagle Way      |
| -    | D   | A12 (south)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

### Vehicles

| From/To | A   | B    | C  | D    | Totals |
|---------|-----|------|----|------|--------|
| A       | 0   | 331  | 14 | 25   | 370    |
| B       | 754 | 0    | 52 | 1230 | 2036   |
| C       | 46  | 115  | 0  | 48   | 209    |
| D       | 61  | 1248 | 31 | 0    | 1340   |
| Totals  | 861 | 1694 | 97 | 1303 | 3955   |

### HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 10 | 4 | 0  | 14     |
| B       | 9 | 0  | 2 | 84 | 95     |
| C       | 0 | 1  | 0 | 1  | 2      |
| D       | 0 | 53 | 1 | 0  | 54     |
| Totals  | 9 | 64 | 7 | 85 | 165    |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 341  | 18  | 25   | 384    |
| B       | 763 | 0    | 54  | 1314 | 2131   |
| C       | 46  | 116  | 0   | 49   | 211    |
| D       | 61  | 1301 | 32  | 0    | 1394   |
| Totals  | 870 | 1758 | 104 | 1388 | 4120   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 2.9% | 22.2% | 0.0% | 6%      |
| B       | 1.2% | 0.0% | 3.7%  | 6.4% | 3%      |
| C       | 0.0% | 0.9% | 0.0%  | 2.0% | 1%      |
| D       | 0.0% | 4.1% | 3.1%  | 0.0% | 2%      |
| Average | 0%   | 2%   | 7%    | 2%   | 3%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 16:45PM - 17:45PM

### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 517  | 19  | 99   | 635    |
| B       | 268 | 0    | 137 | 1397 | 1802   |
| C       | 27  | 59   | 0   | 48   | 134    |
| D       | 39  | 1551 | 39  | 0    | 1629   |
| Totals  | 334 | 2127 | 195 | 1544 | 4200   |

### HGVs

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 4  | 3 | 0  | 7      |
| B       | 11 | 0  | 2 | 41 | 54     |
| C       | 0  | 2  | 0 | 1  | 3      |
| D       | 4  | 51 | 1 | 0  | 56     |
| Totals  | 15 | 57 | 6 | 42 | 120    |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 521  | 22  | 99   | 642    |
| B       | 279 | 0    | 139 | 1438 | 1856   |
| C       | 27  | 61   | 0   | 49   | 137    |
| D       | 43  | 1602 | 40  | 0    | 1685   |
| Totals  | 349 | 2184 | 201 | 1586 | 4320   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 0.8% | 13.6% | 0.0% | 4%      |
| B       | 3.9% | 0.0% | 1.4%  | 2.9% | 2%      |
| C       | 0.0% | 3.3% | 0.0%  | 2.0% | 1%      |
| D       | 9.3% | 3.2% | 2.5%  | 0.0% | 4%      |
| Average | 3%   | 2%   | 4%    | 1%   | 3%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 350  | 15  | 26   | 391    |
| B       | 798 | 0    | 55  | 1301 | 2154   |
| C       | 49  | 122  | 0   | 51   | 221    |
| D       | 65  | 1320 | 33  | 0    | 1417   |
| Totals  | 911 | 1792 | 103 | 1378 | 4184   |

### Growth Factored HGVs

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 11 | 4 | 0  | 15     |
| B       | 10 | 0  | 2 | 89 | 100    |
| C       | 0  | 1  | 0 | 1  | 2      |
| D       | 0  | 56 | 1 | 0  | 57     |
| Totals  | 10 | 68 | 7 | 90 | 175    |

### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 361  | 19  | 26   | 406    |
| B       | 807 | 0    | 57  | 1390 | 2254   |
| C       | 49  | 123  | 0   | 52   | 223    |
| D       | 65  | 1376 | 34  | 0    | 1475   |
| Totals  | 920 | 1860 | 110 | 1468 | 4358   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 2.9% | 22.2% | 0.0% | 6%      |
| B       | 1.2% | 0.0% | 3.7%  | 6.4% | 3%      |
| C       | 0.0% | 0.9% | 0.0%  | 2.0% | 1%      |
| D       | 0.0% | 4.1% | 3.1%  | 0.0% | 2%      |
| Average | 0%   | 2%   | 7%    | 2%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 547  | 20  | 105  | 672    |
| B       | 284 | 0    | 145 | 1479 | 1908   |
| C       | 29  | 62   | 0   | 51   | 142    |
| D       | 41  | 1642 | 41  | 0    | 1725   |
| Totals  | 354 | 2252 | 206 | 1635 | 4447   |

### Growth Factored HGVs

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 4  | 3 | 0  | 7      |
| B       | 12 | 0  | 2 | 43 | 57     |
| C       | 0  | 2  | 0 | 1  | 3      |
| D       | 4  | 54 | 1 | 0  | 59     |
| Totals  | 16 | 60 | 6 | 44 | 127    |

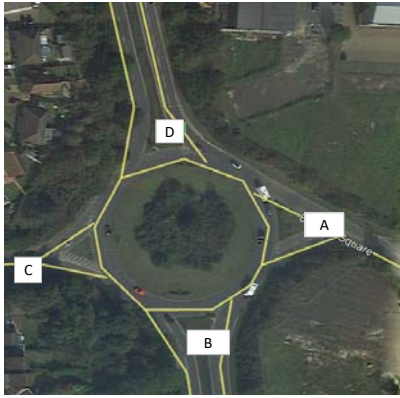
### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 552  | 23  | 105  | 680    |
| B       | 295 | 0    | 147 | 1523 | 1965   |
| C       | 29  | 65   | 0   | 52   | 145    |
| D       | 46  | 1696 | 42  | 0    | 1784   |
| Totals  | 370 | 2312 | 213 | 1679 | 4574   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 0.8% | 13.6% | 0.0% | 4%      |
| B       | 3.9% | 0.0% | 1.4%  | 2.9% | 2%      |
| C       | 0.0% | 3.3% | 0.0%  | 2.0% | 1%      |
| D       | 9.3% | 3.2% | 2.5%  | 0.0% | 4%      |
| Average | 3%   | 2%   | 4%    | 1%   | 3%      |

# Junction 12 - A12 / Adastral Park / Eagle Way Junction



## Notes

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Barrack Square |
| -    | B   | A12 (north)    |
| -    | C   | Eagle Way      |
| -    | D   | A12 (south)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## EA2 Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A | B | C | D  | Totals |
|---------|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 31 | 31     |
| C       | 0 | 0 | 0 | 0  | 0      |
| D       | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 31 | 31     |

#### HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

#### Total

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 41 | 41     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 41 | 52     |

#### %HGV

| From/To | A    | B      | C    | D     | Average |
|---------|------|--------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 25.4% | 6%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 6%    | 8%      |

### PM Peak Traffic

#### Vehicles

| From/To | A | B  | C | D | Totals |
|---------|---|----|---|---|--------|
| A       | 0 | 0  | 0 | 0 | 0      |
| B       | 0 | 0  | 0 | 0 | 0      |
| C       | 0 | 0  | 0 | 0 | 0      |
| D       | 0 | 31 | 0 | 0 | 31     |
| Totals  | 0 | 31 | 0 | 0 | 31     |

#### HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

#### Total

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 41 | 0 | 0  | 41     |
| Totals  | 0 | 41 | 0 | 11 | 52     |

#### %HGV

| From/To | A    | B     | C    | D      | Average |
|---------|------|-------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 25.4% | 0.0% | 0.0%   | 6%      |
| Average | 0%   | 6%    | 0%   | 25%    | 8%      |

## Forecast Flows + EA2 Construction Traffic Traffic (2023)

### AM Peak Traffic

#### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 350  | 15  | 26   | 391    |
| B       | 798 | 0    | 55  | 1332 | 2185   |
| C       | 49  | 122  | 0   | 51   | 221    |
| D       | 65  | 1320 | 33  | 0    | 1417   |
| Totals  | 911 | 1792 | 103 | 1409 | 4214   |

#### HGVs

| From/To | A  | B  | C | D   | Totals |
|---------|----|----|---|-----|--------|
| A       | 0  | 11 | 4 | 0   | 15     |
| B       | 10 | 0  | 2 | 99  | 111    |
| C       | 0  | 1  | 0 | 1   | 2      |
| D       | 0  | 67 | 1 | 0   | 68     |
| Totals  | 10 | 78 | 7 | 100 | 196    |

#### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 361  | 19  | 26   | 406    |
| B       | 807 | 0    | 57  | 1431 | 2296   |
| C       | 49  | 123  | 0   | 52   | 223    |
| D       | 65  | 1387 | 34  | 0    | 1485   |
| Totals  | 920 | 1870 | 110 | 1510 | 4410   |

#### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 2.9% | 22.2% | 0.0% | 6%      |
| B       | 1.2% | 0.0% | 3.7%  | 6.9% | 3%      |
| C       | 0.0% | 0.9% | 0.0%  | 2.0% | 1%      |
| D       | 0.0% | 4.8% | 3.1%  | 0.0% | 2%      |
| Average | 0%   | 2%   | 7%    | 2%   | 3%      |

### PM Peak Traffic

#### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 547  | 20  | 105  | 672    |
| B       | 284 | 0    | 145 | 1479 | 1908   |
| C       | 29  | 62   | 0   | 51   | 142    |
| D       | 41  | 1673 | 41  | 0    | 1755   |
| Totals  | 354 | 2283 | 206 | 1635 | 4478   |

#### HGVs

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 4  | 3 | 0  | 7      |
| B       | 12 | 0  | 2 | 54 | 68     |
| C       | 0  | 2  | 0 | 1  | 3      |
| D       | 4  | 64 | 1 | 0  | 70     |
| Totals  | 16 | 71 | 6 | 55 | 148    |

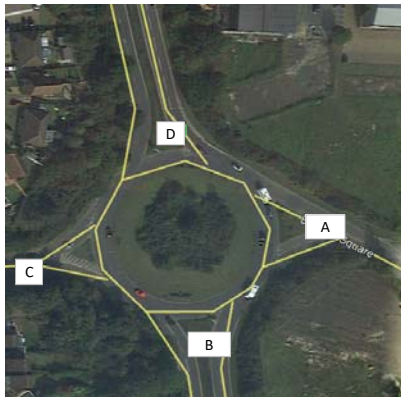
#### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 552  | 23  | 105  | 680    |
| B       | 295 | 0    | 147 | 1533 | 1976   |
| C       | 29  | 65   | 0   | 52   | 145    |
| D       | 46  | 1738 | 42  | 0    | 1825   |
| Totals  | 370 | 2354 | 213 | 1690 | 4626   |

#### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 0.8% | 13.6% | 0.0% | 4%      |
| B       | 3.9% | 0.0% | 1.4%  | 3.5% | 2%      |
| C       | 0.0% | 3.3% | 0.0%  | 2.0% | 1%      |
| D       | 9.3% | 3.7% | 2.5%  | 0.0% | 4%      |
| Average | 3%   | 2%   | 4%    | 1%   | 3%      |

# Junction 12 - A12 / Adastral Park / Eagle Way Junction



## Notes

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Barrack Square |
| -    | B   | A12 (north)    |
| -    | C   | Eagle Way      |
| -    | D   | A12 (south)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

## Surveyed Flows (2019)

**AM Peak Traffic**  
Wednesday 5th June 2019: 07:45AM - 08:45AM

### Vehicles

| From/To | A   | B    | C  | D    | Totals |
|---------|-----|------|----|------|--------|
| A       | 0   | 331  | 14 | 25   | 370    |
| B       | 754 | 0    | 52 | 1230 | 2036   |
| C       | 46  | 115  | 0  | 48   | 209    |
| D       | 61  | 1248 | 31 | 0    | 1340   |
| Totals  | 861 | 1694 | 97 | 1303 | 3955   |

### HGVs

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 10 | 4 | 0  | 14     |
| B       | 9 | 0  | 2 | 84 | 95     |
| C       | 0 | 1  | 0 | 1  | 2      |
| D       | 0 | 53 | 1 | 0  | 54     |
| Totals  | 9 | 64 | 7 | 85 | 165    |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 341  | 18  | 25   | 384    |
| B       | 763 | 0    | 54  | 1314 | 2131   |
| C       | 46  | 116  | 0   | 49   | 211    |
| D       | 61  | 1301 | 32  | 0    | 1394   |
| Totals  | 870 | 1758 | 104 | 1388 | 4120   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 2.9% | 22.2% | 0.0% | 6%      |
| B       | 1.2% | 0.0% | 3.7%  | 6.4% | 3%      |
| C       | 0.0% | 0.9% | 0.0%  | 2.0% | 1%      |
| D       | 0.0% | 4.1% | 3.1%  | 0.0% | 2%      |
| Average | 0%   | 2%   | 7%    | 2%   | 3%      |

**PM Peak Traffic**  
Thursday 6th June 2019: 16:45PM - 17:45PM

### Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 517  | 19  | 99   | 635    |
| B       | 268 | 0    | 137 | 1397 | 1802   |
| C       | 27  | 59   | 0   | 48   | 134    |
| D       | 39  | 1551 | 39  | 0    | 1629   |
| Totals  | 334 | 2127 | 195 | 1544 | 4200   |

### HGVs

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 4  | 3 | 0  | 7      |
| B       | 11 | 0  | 2 | 41 | 54     |
| C       | 0  | 2  | 0 | 1  | 3      |
| D       | 4  | 51 | 1 | 0  | 56     |
| Totals  | 15 | 57 | 6 | 42 | 120    |

### Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 521  | 22  | 99   | 642    |
| B       | 279 | 0    | 139 | 1438 | 1856   |
| C       | 27  | 61   | 0   | 49   | 137    |
| D       | 43  | 1602 | 40  | 0    | 1685   |
| Totals  | 349 | 2184 | 201 | 1586 | 4320   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 0.8% | 13.6% | 0.0% | 4%      |
| B       | 3.9% | 0.0% | 1.4%  | 2.9% | 2%      |
| C       | 0.0% | 3.3% | 0.0%  | 2.0% | 1%      |
| D       | 9.3% | 3.2% | 2.5%  | 0.0% | 4%      |
| Average | 3%   | 2%   | 4%    | 1%   | 3%      |

## Forecast Flows (2023)

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 350  | 15  | 26   | 391    |
| B       | 798 | 0    | 55  | 1301 | 2154   |
| C       | 49  | 122  | 0   | 51   | 221    |
| D       | 65  | 1320 | 33  | 0    | 1417   |
| Totals  | 911 | 1792 | 103 | 1378 | 4184   |

### Growth Factored HGVs

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 11 | 4 | 0  | 15     |
| B       | 10 | 0  | 2 | 89 | 100    |
| C       | 0  | 1  | 0 | 1  | 2      |
| D       | 0  | 56 | 1 | 0  | 57     |
| Totals  | 10 | 68 | 7 | 90 | 175    |

### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 361  | 19  | 26   | 406    |
| B       | 807 | 0    | 57  | 1390 | 2254   |
| C       | 49  | 123  | 0   | 52   | 223    |
| D       | 65  | 1376 | 34  | 0    | 1475   |
| Totals  | 920 | 1860 | 110 | 1468 | 4358   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 2.9% | 22.2% | 0.0% | 6%      |
| B       | 1.2% | 0.0% | 3.7%  | 6.4% | 3%      |
| C       | 0.0% | 0.9% | 0.0%  | 2.0% | 1%      |
| D       | 0.0% | 4.1% | 3.1%  | 0.0% | 2%      |
| Average | 0%   | 2%   | 7%    | 2%   | 3%      |

### Growth Factored Vehicles

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 547  | 20  | 105  | 672    |
| B       | 284 | 0    | 145 | 1479 | 1908   |
| C       | 29  | 62   | 0   | 51   | 142    |
| D       | 41  | 1642 | 41  | 0    | 1725   |
| Totals  | 354 | 2252 | 206 | 1635 | 4447   |

### Growth Factored HGVs

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 4  | 3 | 0  | 7      |
| B       | 12 | 0  | 2 | 43 | 57     |
| C       | 0  | 2  | 0 | 1  | 3      |
| D       | 4  | 54 | 1 | 0  | 59     |
| Totals  | 16 | 60 | 6 | 44 | 127    |

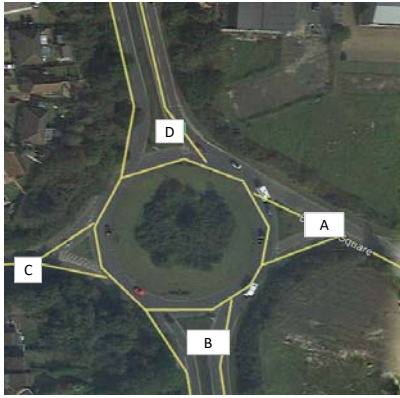
### Growth Factored Total

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 552  | 23  | 105  | 680    |
| B       | 295 | 0    | 147 | 1523 | 1965   |
| C       | 29  | 65   | 0   | 52   | 145    |
| D       | 46  | 1696 | 42  | 0    | 1784   |
| Totals  | 370 | 2312 | 213 | 1679 | 4574   |

### %HGV

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 0.8% | 13.6% | 0.0% | 4%      |
| B       | 3.9% | 0.0% | 1.4%  | 2.9% | 2%      |
| C       | 0.0% | 3.3% | 0.0%  | 2.0% | 1%      |
| D       | 9.3% | 3.2% | 2.5%  | 0.0% | 4%      |
| Average | 3%   | 2%   | 4%    | 1%   | 3%      |

**Junction 12 - A12 / Adastral Park / Eagle Way Junction**



**Notes**

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Barrack Square |
| -    | B   | A12 (north)    |
| -    | C   | Eagle Way      |
| -    | D   | A12 (south)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A | B | C | D  | Totals |
|---------|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 38 | 38     |
| C       | 0 | 0 | 0 | 0  | 0      |
| D       | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 38 | 38     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 52 | 52     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 52 | 65     |

**%HGV**

| From/To | A    | B      | C    | D     | Average |
|---------|------|--------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 26.1% | 7%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 7%    | 8%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A | B  | C | D | Totals |
|---------|---|----|---|---|--------|
| A       | 0 | 0  | 0 | 0 | 0      |
| B       | 0 | 0  | 0 | 0 | 0      |
| C       | 0 | 0  | 0 | 0 | 0      |
| D       | 0 | 38 | 0 | 0 | 38     |
| Totals  | 0 | 38 | 0 | 0 | 38     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 52 | 0 | 0  | 52     |
| Totals  | 0 | 52 | 0 | 14 | 65     |

**%HGV**

| From/To | A    | B     | C    | D      | Average |
|---------|------|-------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 26.1% | 0.0% | 0.0%   | 7%      |
| Average | 0%   | 7%    | 0%   | 25%    | 8%      |

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 350  | 15  | 26   | 391    |
| B       | 798 | 0    | 55  | 1339 | 2192   |
| C       | 49  | 122  | 0   | 51   | 221    |
| D       | 65  | 1320 | 33  | 0    | 1417   |
| Totals  | 911 | 1792 | 103 | 1417 | 4222   |

**HGVs**

| From/To | A  | B  | C | D   | Totals |
|---------|----|----|---|-----|--------|
| A       | 0  | 11 | 4 | 0   | 15     |
| B       | 10 | 0  | 2 | 102 | 114    |
| C       | 0  | 1  | 0 | 1   | 2      |
| D       | 0  | 70 | 1 | 0   | 71     |
| Totals  | 10 | 81 | 7 | 103 | 202    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 361  | 19  | 26   | 406    |
| B       | 807 | 0    | 57  | 1442 | 2306   |
| C       | 49  | 123  | 0   | 52   | 223    |
| D       | 65  | 1390 | 34  | 0    | 1488   |
| Totals  | 920 | 1873 | 110 | 1520 | 4423   |

**%HGV**

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 2.9% | 22.2% | 0.0% | 6%      |
| B       | 1.2% | 0.0% | 3.7%  | 7.1% | 3%      |
| C       | 0.0% | 0.9% | 0.0%  | 2.0% | 1%      |
| D       | 0.0% | 5.0% | 3.1%  | 0.0% | 2%      |
| Average | 0%   | 2%   | 7%    | 2%   | 3%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 547  | 20  | 105  | 672    |
| B       | 284 | 0    | 145 | 1479 | 1908   |
| C       | 29  | 62   | 0   | 51   | 142    |
| D       | 41  | 1680 | 41  | 0    | 1763   |
| Totals  | 354 | 2290 | 206 | 1635 | 4485   |

**HGVs**

| From/To | A  | B  | C | D  | Totals |
|---------|----|----|---|----|--------|
| A       | 0  | 4  | 3 | 0  | 7      |
| B       | 12 | 0  | 2 | 57 | 71     |
| C       | 0  | 2  | 0 | 1  | 3      |
| D       | 4  | 67 | 1 | 0  | 73     |
| Totals  | 16 | 74 | 6 | 58 | 154    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 552  | 23  | 105  | 680    |
| B       | 295 | 0    | 147 | 1536 | 1979   |
| C       | 29  | 65   | 0   | 52   | 145    |
| D       | 46  | 1748 | 42  | 0    | 1836   |
| Totals  | 370 | 2364 | 213 | 1693 | 4639   |

**%HGV**

| From/To | A    | B    | C     | D    | Average |
|---------|------|------|-------|------|---------|
| A       | 0.0% | 0.8% | 13.6% | 0.0% | 4%      |
| B       | 3.9% | 0.0% | 1.4%  | 3.7% | 2%      |
| C       | 0.0% | 3.3% | 0.0%  | 2.0% | 1%      |
| D       | 9.3% | 3.9% | 2.5%  | 0.0% | 4%      |
| Average | 3%   | 2%   | 4%    | 1%   | 3%      |

| Junctions 8                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ARCADY 8 - Roundabout Module                                                                                                                                                |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |

**Filename:** Junction 12 - A12 and Eagle Way and Barrack Square.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 22/07/2019 14:07:42

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - » Existing Layout - Background 2019, AM
  - » Existing Layout - Background 2019, PM

## Summary of junction performance

|                                                                      | AM          |           |      |     | PM          |           |      |     |
|----------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| Existing Layout - Background 2019                                    |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.92        | 7.90      | 0.48 | A   | 9.50        | 51.64     | 0.93 | F   |
| Arm 2                                                                | 7.48        | 11.93     | 0.89 | B   | 3.48        | 6.21      | 0.78 | A   |
| Arm 3                                                                | 0.60        | 9.37      | 0.38 | A   | 0.23        | 5.63      | 0.19 | A   |
| Arm 4                                                                | 8.57        | 21.29     | 0.91 | C   | 8.19        | 16.69     | 0.90 | C   |
| Existing Layout - Forecast Background + EA2 + EA1N Construction 2023 |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 1.15        | 9.40      | 0.54 | A   | 40.37       | 175.39    | 1.10 | F   |
| Arm 2                                                                | 19.54       | 29.31     | 0.97 | D   | 4.92        | 8.32      | 0.83 | A   |
| Arm 3                                                                | 0.90        | 13.39     | 0.48 | B   | 0.29        | 6.43      | 0.22 | A   |
| Arm 4                                                                | 25.67       | 56.54     | 0.99 | F   | 28.13       | 50.60     | 0.99 | F   |
| Existing Layout - Forecast Background + EA2 Construction 2023        |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 1.14        | 9.35      | 0.54 | A   | 38.50       | 167.53    | 1.10 | F   |
| Arm 2                                                                | 17.80       | 26.92     | 0.96 | D   | 4.84        | 8.20      | 0.83 | A   |
| Arm 3                                                                | 0.88        | 13.06     | 0.47 | B   | 0.28        | 6.40      | 0.22 | A   |
| Arm 4                                                                | 24.42       | 54.27     | 0.99 | F   | 25.00       | 45.89     | 0.99 | E   |
| Existing Layout - Forecast Background 2023                           |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 1.12        | 9.17      | 0.53 | A   | 30.59       | 135.75    | 1.06 | F   |
| Arm 2                                                                | 13.28       | 20.48     | 0.94 | C   | 4.61        | 7.84      | 0.83 | A   |
| Arm 3                                                                | 0.81        | 11.95     | 0.45 | B   | 0.28        | 6.29      | 0.22 | A   |
| Arm 4                                                                | 20.33       | 46.59     | 0.98 | E   | 16.47       | 32.05     | 0.96 | D   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA2 Construction 2023, AM" model duration: 08:00 - 09:30

"D4 - Forecast Background + EA2 Construction 2023, PM" model duration: 16:45 - 18:15

"D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Background 2019, AM" model duration: 08:00 - 09:30

"D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 22/07/2019 14:07:36

## File summary

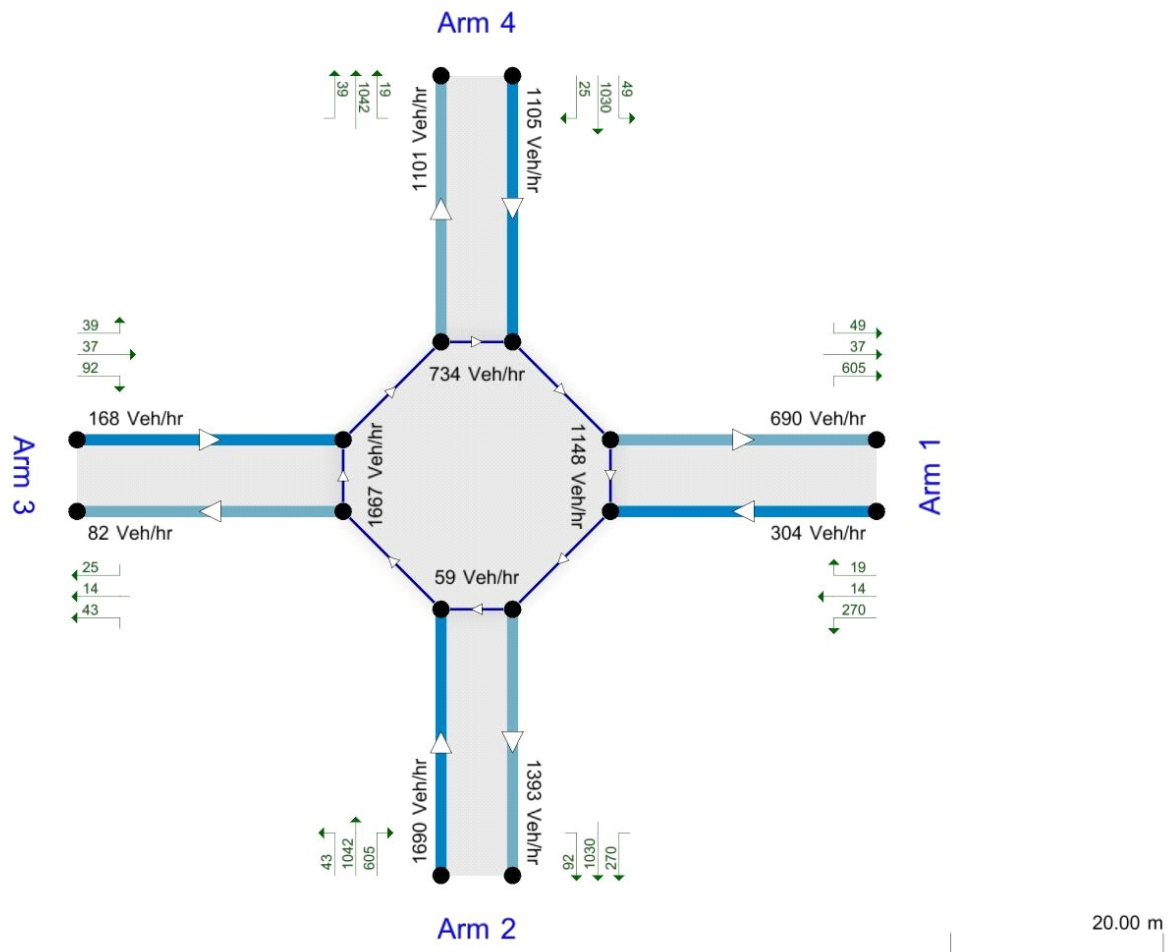
|             |                                                              |
|-------------|--------------------------------------------------------------|
| Title       | East Anglia TWO Offshore Windfarm                            |
| Location    | Roundabout junction of the A12, Eagle Way and Barrack Square |
| Site Number | J12                                                          |
| Date        | 25/06/2019                                                   |
| Version     | D0.1                                                         |
| Status      | Existing Layout                                              |
| Identifier  |                                                              |
| Client      | Scottish Power                                               |
| Jobnumber   | PB4842                                                       |
| Enumerator  | 304111                                                       |
| Description |                                                              |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Time Segment: (08:00-08:15)  
Showing Analysis Set "A1 - Existing Layout", Demand Set "D1 - Forecast Background 2023, AM"

The junction diagram reflects the last run of ARCADY.



# Existing Layout - Forecast Background 2023, AM

## Data Errors and Warnings

No errors or warnings

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way. Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 27.83              | D            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 406.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 2254.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 224.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1475.00                      | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 305.66                            | 316.72                              |                                  |                                        |
| 08:00-08:15  | 2   | 1696.93                           | 1772.78                             |                                  |                                        |
| 08:00-08:15  | 3   | 168.64                            | 170.26                              |                                  |                                        |
| 08:00-08:15  | 4   | 1110.46                           | 1153.72                             |                                  |                                        |
| 08:15-08:30  | 1   | 364.99                            | 378.19                              |                                  |                                        |
| 08:15-08:30  | 2   | 2026.30                           | 2116.87                             |                                  |                                        |
| 08:15-08:30  | 3   | 201.37                            | 203.30                              |                                  |                                        |
| 08:15-08:30  | 4   | 1325.99                           | 1377.66                             |                                  |                                        |
| 08:30-08:45  | 1   | 447.01                            | 463.19                              |                                  |                                        |
| 08:30-08:45  | 2   | 2481.70                           | 2592.63                             |                                  |                                        |
| 08:30-08:45  | 3   | 246.63                            | 248.99                              |                                  |                                        |
| 08:30-08:45  | 4   | 1624.01                           | 1687.28                             |                                  |                                        |
| 08:45-09:00  | 1   | 447.01                            | 463.19                              |                                  |                                        |
| 08:45-09:00  | 2   | 2481.70                           | 2592.63                             |                                  |                                        |
| 08:45-09:00  | 3   | 246.63                            | 248.99                              |                                  |                                        |
| 08:45-09:00  | 4   | 1624.01                           | 1687.28                             |                                  |                                        |
| 09:00-09:15  | 1   | 364.99                            | 378.19                              |                                  |                                        |
| 09:00-09:15  | 2   | 2026.30                           | 2116.87                             |                                  |                                        |
| 09:00-09:15  | 3   | 201.37                            | 203.30                              |                                  |                                        |
| 09:00-09:15  | 4   | 1325.99                           | 1377.66                             |                                  |                                        |
| 09:15-09:30  | 1   | 305.66                            | 316.72                              |                                  |                                        |
| 09:15-09:30  | 2   | 1696.93                           | 1772.78                             |                                  |                                        |
| 09:15-09:30  | 3   | 168.64                            | 170.26                              |                                  |                                        |
| 09:15-09:30  | 4   | 1110.46                           | 1153.72                             |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      |   | To      |          |        |          |
|------|---|---------|----------|--------|----------|
| From |   | 1       | 2        | 3      | 4        |
|      | 1 | 0.000   | 361.000  | 19.000 | 26.000   |
|      | 2 | 807.000 | 0.000    | 57.000 | 1390.000 |
|      | 3 | 49.000  | 123.000  | 0.000  | 52.000   |
|      | 4 | 65.000  | 1376.000 | 34.000 | 0.000    |

### Turning Proportions (Veh) - Junction 12 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.89 | 0.05 | 0.06 |
|      | 2 | 0.36 | 0.00 | 0.03 | 0.62 |
|      | 3 | 0.22 | 0.55 | 0.00 | 0.23 |
|      | 4 | 0.04 | 0.93 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.029 | 1.222 | 1.000 |
|      | 2  | 1.012 | 1.000 | 1.037 | 1.064 |
|      | 3  | 1.000 | 1.009 | 1.000 | 1.020 |
|      | 4  | 1.000 | 1.041 | 1.031 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 2.9 | 22.2 | 0.0 |
|      | 2  | 1.2 | 0.0 | 3.7  | 6.4 |
|      | 3  | 0.0 | 0.9 | 0.0  | 2.0 |
|      | 4  | 0.0 | 4.1 | 3.1  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.53    | 9.17          | 1.12            | A       | 372.55                  | 558.83                        | 61.63                          | 6.62                       | 0.68                                 | 61.63                                    | 6.62                                 |
| 2   | 0.94    | 20.48         | 13.28           | C       | 2068.31                 | 3102.46                       | 490.45                         | 9.49                       | 5.45                                 | 490.49                                   | 9.49                                 |
| 3   | 0.45    | 11.95         | 0.81            | B       | 205.55                  | 308.32                        | 39.78                          | 7.74                       | 0.44                                 | 39.78                                    | 7.74                                 |
| 4   | 0.98    | 46.59         | 20.33           | E       | 1353.49                 | 2030.23                       | 595.29                         | 17.59                      | 6.61                                 | 595.33                                   | 17.59                                |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 305.66                | 76.41                   | 304.15              | 690.43             | 1148.08                   | 0.00                       | 1107.80           | 814.82                       | 0.276 | 0.00              | 0.38            | 4.471     | A   |
| 2   | 1696.93               | 424.23                  | 1689.95             | 1393.06            | 59.17                     | 0.00                       | 2658.98           | 2612.51                      | 0.638 | 0.00              | 1.74            | 3.688     | A   |
| 3   | 168.64                | 42.16                   | 167.79              | 82.43              | 1666.70                   | 0.00                       | 960.86            | 464.45                       | 0.176 | 0.00              | 0.21            | 4.534     | A   |
| 4   | 1110.46               | 277.62                  | 1104.63             | 1100.59            | 733.90                    | 0.00                       | 1862.45           | 1531.75                      | 0.596 | 0.00              | 1.46            | 4.715     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 364.99                | 91.25                   | 364.20              | 825.57             | 1372.55                   | 0.00                       | 991.94            | 814.82                       | 0.368 | 0.38              | 0.58            | 5.727     | A   |
| 2   | 2026.30               | 506.57                  | 2020.63             | 1665.94            | 70.80                     | 0.00                       | 2650.98           | 2612.51                      | 0.764 | 1.74              | 3.16            | 5.661     | A   |
| 3   | 201.37                | 50.34                   | 200.86              | 98.58              | 1992.86                   | 0.00                       | 786.95            | 464.45                       | 0.256 | 0.21              | 0.34            | 6.137     | A   |
| 4   | 1326.00               | 331.50                  | 1320.45             | 1316.03            | 877.68                    | 0.00                       | 1777.15           | 1531.75                      | 0.746 | 1.46              | 2.84            | 7.789     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 447.02                | 111.75                  | 445.02              | 999.01             | 1639.22                   | 0.00                       | 854.35            | 814.82                       | 0.523 | 0.58              | 1.08            | 8.753     | A   |
| 2   | 2481.70               | 620.42                  | 2446.89             | 1998.62            | 85.61                     | 0.00                       | 2640.77           | 2612.51                      | 0.940 | 3.16              | 11.86           | 16.270    | C   |
| 3   | 246.63                | 61.66                   | 244.94              | 118.99             | 2413.51                   | 0.00                       | 562.66            | 464.45                       | 0.438 | 0.34              | 0.76            | 11.273    | B   |
| 4   | 1624.01               | 406.00                  | 1574.08             | 1594.31            | 1064.13                   | 0.00                       | 1666.52           | 1531.75                      | 0.974 | 2.84              | 15.33           | 29.630    | D   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 447.02                | 111.75                  | 446.83              | 1011.09            | 1668.63                   | 0.00                       | 839.14            | 814.82                       | 0.533 | 1.08              | 1.12            | 9.169     | A   |
| 2   | 2481.70               | 620.42                  | 2476.02             | 2028.95            | 86.50                     | 0.00                       | 2640.17           | 2612.51                      | 0.940 | 11.86             | 13.28           | 20.484    | C   |
| 3   | 246.63                | 61.66                   | 246.46              | 120.50             | 2442.03                   | 0.00                       | 547.45            | 464.45                       | 0.451 | 0.76              | 0.81            | 11.950    | B   |
| 4   | 1624.01               | 406.00                  | 1603.98             | 1612.75            | 1075.74                   | 0.00                       | 1659.63           | 1531.75                      | 0.979 | 15.33             | 20.33           | 46.593    | E   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 364.99                | 91.25                   | 366.97              | 845.62             | 1444.87                   | 0.00                       | 954.54            | 814.82                       | 0.382 | 1.12              | 0.63            | 6.146     | A   |
| 2   | 2026.30               | 506.57                  | 2066.07             | 1739.02            | 72.83                     | 0.00                       | 2649.62           | 2612.51                      | 0.765 | 13.28             | 3.34            | 6.571     | A   |
| 3   | 201.37                | 50.34                   | 203.15              | 101.57             | 2037.32                   | 0.00                       | 763.23            | 464.45                       | 0.264 | 0.81              | 0.36            | 6.449     | A   |
| 4   | 1326.00               | 331.50                  | 1394.80             | 1344.76            | 895.70                    | 0.00                       | 1766.45           | 1531.75                      | 0.751 | 20.33             | 3.13            | 11.441    | B   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 305.66                | 76.41                   | 306.62              | 696.02             | 1160.67                   | 0.00                       | 1101.30           | 814.82                       | 0.278 | 0.63              | 0.39            | 4.535     | A   |
| 2   | 1696.93               | 424.23                  | 1703.15             | 1407.56            | 59.73                     | 0.00                       | 2658.60           | 2612.51                      | 0.638 | 3.34              | 1.78            | 3.794     | A   |
| 3   | 168.64                | 42.16                   | 169.22              | 83.17              | 1679.73                   | 0.00                       | 953.91            | 464.45                       | 0.177 | 0.36              | 0.22            | 4.592     | A   |
| 4   | 1110.46               | 277.62                  | 1116.98             | 1109.22            | 739.72                    | 0.00                       | 1859.00           | 1531.75                      | 0.597 | 3.13              | 1.50            | 4.892     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.52                           | 0.37                                 | 4.471                                  | A                             | A                           |
| 2   | 25.19                          | 1.68                                 | 3.688                                  | A                             | A                           |
| 3   | 3.10                           | 0.21                                 | 4.534                                  | A                             | A                           |
| 4   | 20.97                          | 1.40                                 | 4.715                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.42                           | 0.56                                 | 5.727                                  | A                             | A                           |
| 2   | 44.93                          | 3.00                                 | 5.661                                  | A                             | A                           |
| 3   | 4.98                           | 0.33                                 | 6.137                                  | A                             | A                           |
| 4   | 40.00                          | 2.67                                 | 7.789                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.40                          | 1.03                                 | 8.753                                  | A                             | A                           |
| 2   | 143.11                         | 9.54                                 | 16.270                                 | C                             | B                           |
| 3   | 10.86                          | 0.72                                 | 11.273                                 | B                             | B                           |
| 4   | 165.63                         | 11.04                                | 29.630                                 | D                             | C                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.62                          | 1.11                                 | 9.169                                  | A                             | A                           |
| 2   | 190.31                         | 12.69                                | 20.484                                 | C                             | C                           |
| 3   | 11.90                          | 0.79                                 | 11.950                                 | B                             | B                           |
| 4   | 270.97                         | 18.06                                | 46.593                                 | E                             | D                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.71                           | 0.65                                 | 6.146                                  | A                             | A                           |
| 2   | 59.20                          | 3.95                                 | 6.571                                  | A                             | A                           |
| 3   | 5.63                           | 0.38                                 | 6.449                                  | A                             | A                           |
| 4   | 74.23                          | 4.95                                 | 11.441                                 | B                             | B                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.94                           | 0.40                                 | 4.535                                  | A                             | A                           |
| 2   | 27.72                          | 1.85                                 | 3.794                                  | A                             | A                           |
| 3   | 3.31                           | 0.22                                 | 4.592                                  | A                             | A                           |
| 4   | 23.50                          | 1.57                                 | 4.892                                  | A                             | A                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way. Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 35.98              | E            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 680.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1965.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 146.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1784.00                      | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 511.94                            | 517.62                              |                                  |                                        |
| 16:45-17:00  | 2   | 1479.36                           | 1522.82                             |                                  |                                        |
| 16:45-17:00  | 3   | 109.92                            | 112.31                              |                                  |                                        |
| 16:45-17:00  | 4   | 1343.09                           | 1387.96                             |                                  |                                        |
| 17:00-17:15  | 1   | 611.31                            | 618.09                              |                                  |                                        |
| 17:00-17:15  | 2   | 1766.49                           | 1818.39                             |                                  |                                        |
| 17:00-17:15  | 3   | 131.25                            | 134.11                              |                                  |                                        |
| 17:00-17:15  | 4   | 1603.78                           | 1657.36                             |                                  |                                        |
| 17:15-17:30  | 1   | 748.69                            | 757.00                              |                                  |                                        |
| 17:15-17:30  | 2   | 2163.51                           | 2227.07                             |                                  |                                        |
| 17:15-17:30  | 3   | 160.75                            | 164.26                              |                                  |                                        |
| 17:15-17:30  | 4   | 1964.22                           | 2029.84                             |                                  |                                        |
| 17:30-17:45  | 1   | 748.69                            | 757.00                              |                                  |                                        |
| 17:30-17:45  | 2   | 2163.51                           | 2227.07                             |                                  |                                        |
| 17:30-17:45  | 3   | 160.75                            | 164.26                              |                                  |                                        |
| 17:30-17:45  | 4   | 1964.22                           | 2029.84                             |                                  |                                        |
| 17:45-18:00  | 1   | 611.31                            | 618.09                              |                                  |                                        |
| 17:45-18:00  | 2   | 1766.49                           | 1818.39                             |                                  |                                        |
| 17:45-18:00  | 3   | 131.25                            | 134.11                              |                                  |                                        |
| 17:45-18:00  | 4   | 1603.78                           | 1657.36                             |                                  |                                        |
| 18:00-18:15  | 1   | 511.94                            | 517.62                              |                                  |                                        |
| 18:00-18:15  | 2   | 1479.36                           | 1522.82                             |                                  |                                        |
| 18:00-18:15  | 3   | 109.92                            | 112.31                              |                                  |                                        |
| 18:00-18:15  | 4   | 1343.09                           | 1387.96                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 552.000  | 23.000  | 105.000  |
|      | 2  | 295.000 | 0.000    | 147.000 | 1523.000 |
|      | 3  | 29.000  | 65.000   | 0.000   | 52.000   |
|      | 4  | 46.000  | 1696.000 | 42.000  | 0.000    |

## Turning Proportions (Veh) - Junction 12 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.81 | 0.03 | 0.15 |
|      | 2  | 0.15 | 0.00 | 0.07 | 0.78 |
|      | 3  | 0.20 | 0.45 | 0.00 | 0.36 |
|      | 4  | 0.03 | 0.95 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.008 | 1.136 | 1.000 |
|      | 2  | 1.039 | 1.000 | 1.014 | 1.029 |
|      | 3  | 1.000 | 1.033 | 1.000 | 1.020 |
|      | 4  | 1.093 | 1.032 | 1.025 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 0.8 | 13.6 | 0.0 |
|      | 2  | 3.9 | 0.0 | 1.4  | 2.9 |
|      | 3  | 0.0 | 3.3 | 0.0  | 2.0 |
|      | 4  | 9.3 | 3.2 | 2.5  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 1.06    | 135.75        | 30.59           | F       | 623.98                  | 935.97                        | 730.69                         | 46.84                      | 8.12                                 | 730.72                                   | 46.84                                |
| 2   | 0.83    | 7.84          | 4.61            | A       | 1803.12                 | 2704.68                       | 230.32                         | 5.11                       | 2.56                                 | 230.34                                   | 5.11                                 |
| 3   | 0.22    | 6.29          | 0.28            | A       | 133.97                  | 200.96                        | 16.59                          | 4.95                       | 0.18                                 | 16.59                                    | 4.95                                 |
| 4   | 0.96    | 32.05         | 16.47           | D       | 1637.03                 | 2455.54                       | 548.46                         | 13.40                      | 6.09                                 | 548.51                                   | 13.40                                |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 511.94                | 127.99                  | 508.07              | 277.54             | 1350.65                   | 0.00                       | 1032.49           | 665.07                       | 0.496 | 0.00              | 0.97            | 6.814     | A   |
| 2   | 1479.35               | 369.84                  | 1474.36             | 1731.62            | 127.10                    | 0.00                       | 2654.63           | 2626.40                      | 0.557 | 0.00              | 1.25            | 3.038     | A   |
| 3   | 109.92                | 27.48                   | 109.46              | 158.94             | 1442.51                   | 0.00                       | 1078.67           | 512.32                       | 0.102 | 0.00              | 0.11            | 3.712     | A   |
| 4   | 1343.09               | 335.77                  | 1336.37             | 1260.16            | 291.82                    | 0.00                       | 2132.01           | 1869.47                      | 0.630 | 0.00              | 1.68            | 4.487     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 611.31                | 152.83                  | 606.87              | 331.98             | 1615.05                   | 0.00                       | 893.49            | 665.07                       | 0.684 | 0.97              | 2.08            | 12.370    | B   |
| 2   | 1766.49               | 441.62                  | 1763.49             | 2070.06            | 151.85                    | 0.00                       | 2638.03           | 2626.40                      | 0.670 | 1.25              | 2.00            | 4.102     | A   |
| 3   | 131.25                | 32.81                   | 131.05              | 190.07             | 1725.27                   | 0.00                       | 931.90            | 512.32                       | 0.141 | 0.11              | 0.16            | 4.494     | A   |
| 4   | 1603.78               | 400.94                  | 1597.90             | 1507.20            | 349.12                    | 0.00                       | 2097.02           | 1869.47                      | 0.765 | 1.68              | 3.15            | 7.129     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 748.70                | 187.17                  | 687.64              | 404.69             | 1943.61                   | 0.00                       | 720.76            | 665.07                       | 1.039 | 2.08              | 17.34           | 66.684    | F   |
| 2   | 2163.50               | 540.88                  | 2153.50             | 2456.55            | 174.68                    | 0.00                       | 2622.72           | 2626.40                      | 0.825 | 2.00              | 4.50            | 7.516     | A   |
| 3   | 160.75                | 40.19                   | 160.30              | 229.60             | 2098.59                   | 0.00                       | 738.02            | 512.32                       | 0.218 | 0.16              | 0.28            | 6.222     | A   |
| 4   | 1964.22               | 491.05                  | 1921.79             | 1832.37            | 426.51                    | 0.00                       | 2049.76           | 1869.47                      | 0.958 | 3.15              | 13.76           | 22.948    | C   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 748.70                | 187.17                  | 695.72              | 407.03             | 1974.54                   | 0.00                       | 704.49            | 665.07                       | 1.063 | 17.34             | 30.59           | 135.753   | F   |
| 2   | 2163.50               | 540.88                  | 2163.06             | 2493.31            | 176.95                    | 0.00                       | 2621.21           | 2626.40                      | 0.825 | 4.50              | 4.61            | 7.837     | A   |
| 3   | 160.75                | 40.19                   | 160.74              | 231.33             | 2108.67                   | 0.00                       | 732.80            | 512.32                       | 0.219 | 0.28              | 0.28            | 6.292     | A   |
| 4   | 1964.22               | 491.05                  | 1953.34             | 1841.18            | 428.22                    | 0.00                       | 2048.71           | 1869.47                      | 0.959 | 13.76             | 16.47           | 32.045    | D   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 611.31                | 152.83                  | 723.13              | 335.57             | 1672.09                   | 0.00                       | 863.50            | 665.07                       | 0.708 | 30.59             | 2.63            | 43.446    | E   |
| 2   | 1766.49               | 441.62                  | 1776.57             | 2220.11            | 175.11                    | 0.00                       | 2622.44           | 2626.40                      | 0.674 | 4.61              | 2.09            | 4.306     | A   |
| 3   | 131.25                | 32.81                   | 131.70              | 196.35             | 1755.33                   | 0.00                       | 916.56            | 512.32                       | 0.143 | 0.28              | 0.17            | 4.590     | A   |
| 4   | 1603.78               | 400.94                  | 1656.15             | 1535.51            | 351.50                    | 0.00                       | 2095.56           | 1869.47                      | 0.765 | 16.47             | 3.38            | 9.127     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 511.94                | 127.99                  | 518.42              | 279.26             | 1363.93                   | 0.00                       | 1025.51           | 665.07                       | 0.499 | 2.63              | 1.01            | 7.189     | A   |
| 2   | 1479.35               | 369.84                  | 1482.65             | 1752.98            | 129.36                    | 0.00                       | 2653.12           | 2626.40                      | 0.558 | 2.09              | 1.27            | 3.085     | A   |
| 3   | 109.92                | 27.48                   | 110.13              | 160.23             | 1451.79                   | 0.00                       | 1073.88           | 512.32                       | 0.102 | 0.17              | 0.11            | 3.735     | A   |
| 4   | 1343.09               | 335.77                  | 1349.69             | 1268.42            | 293.49                    | 0.00                       | 2130.99           | 1869.47                      | 0.630 | 3.38              | 1.73            | 4.645     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.86                          | 0.92                                 | 6.814                                  | A                             | A                           |
| 2   | 18.21                          | 1.21                                 | 3.038                                  | A                             | A                           |
| 3   | 1.66                           | 0.11                                 | 3.712                                  | A                             | A                           |
| 4   | 24.14                          | 1.61                                 | 4.487                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 28.85                          | 1.92                                 | 12.370                                 | B                             | B                           |
| 2   | 29.01                          | 1.93                                 | 4.102                                  | A                             | A                           |
| 3   | 2.40                           | 0.16                                 | 4.494                                  | A                             | A                           |
| 4   | 44.35                          | 2.96                                 | 7.129                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 164.73                         | 10.98                                | 66.684                                 | F                             | E                           |
| 2   | 62.18                          | 4.15                                 | 7.516                                  | A                             | A                           |
| 3   | 4.03                           | 0.27                                 | 6.222                                  | A                             | A                           |
| 4   | 156.59                         | 10.44                                | 22.948                                 | C                             | C                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 361.61                         | 24.11                                | 135.753                                | F                             | F                           |
| 2   | 68.52                          | 4.57                                 | 7.837                                  | A                             | A                           |
| 3   | 4.17                           | 0.28                                 | 6.292                                  | A                             | A                           |
| 4   | 229.30                         | 15.29                                | 32.045                                 | D                             | C                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 145.55                         | 9.70                                 | 43.446                                 | E                             | D                           |
| 2   | 32.87                          | 2.19                                 | 4.306                                  | A                             | A                           |
| 3   | 2.58                           | 0.17                                 | 4.590                                  | A                             | A                           |
| 4   | 67.11                          | 4.47                                 | 9.127                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.08                          | 1.07                                 | 7.189                                  | A                             | A                           |
| 2   | 19.54                          | 1.30                                 | 3.085                                  | A                             | A                           |
| 3   | 1.75                           | 0.12                                 | 3.735                                  | A                             | A                           |
| 4   | 26.97                          | 1.80                                 | 4.645                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, AM | Forecast Background + EA2 Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way. Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 33.86              | D            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 406.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 2295.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 224.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1486.00                      | 100.000                 |

## Direct/Resultant Flows

### Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 305.66                            | 316.72                              |                                  |                                        |
| 08:00-08:15  | 2   | 1727.80                           | 1811.01                             |                                  |                                        |
| 08:00-08:15  | 3   | 168.64                            | 170.26                              |                                  |                                        |
| 08:00-08:15  | 4   | 1118.74                           | 1169.65                             |                                  |                                        |
| 08:15-08:30  | 1   | 364.99                            | 378.19                              |                                  |                                        |
| 08:15-08:30  | 2   | 2063.16                           | 2162.52                             |                                  |                                        |
| 08:15-08:30  | 3   | 201.37                            | 203.30                              |                                  |                                        |
| 08:15-08:30  | 4   | 1335.88                           | 1396.68                             |                                  |                                        |
| 08:30-08:45  | 1   | 447.01                            | 463.19                              |                                  |                                        |
| 08:30-08:45  | 2   | 2526.84                           | 2648.54                             |                                  |                                        |
| 08:30-08:45  | 3   | 246.63                            | 248.99                              |                                  |                                        |
| 08:30-08:45  | 4   | 1636.12                           | 1710.58                             |                                  |                                        |
| 08:45-09:00  | 1   | 447.01                            | 463.19                              |                                  |                                        |
| 08:45-09:00  | 2   | 2526.84                           | 2648.54                             |                                  |                                        |
| 08:45-09:00  | 3   | 246.63                            | 248.99                              |                                  |                                        |
| 08:45-09:00  | 4   | 1636.12                           | 1710.58                             |                                  |                                        |
| 09:00-09:15  | 1   | 364.99                            | 378.19                              |                                  |                                        |
| 09:00-09:15  | 2   | 2063.16                           | 2162.52                             |                                  |                                        |
| 09:00-09:15  | 3   | 201.37                            | 203.30                              |                                  |                                        |
| 09:00-09:15  | 4   | 1335.88                           | 1396.68                             |                                  |                                        |
| 09:15-09:30  | 1   | 305.66                            | 316.72                              |                                  |                                        |
| 09:15-09:30  | 2   | 1727.80                           | 1811.01                             |                                  |                                        |
| 09:15-09:30  | 3   | 168.64                            | 170.26                              |                                  |                                        |
| 09:15-09:30  | 4   | 1118.74                           | 1169.65                             |                                  |                                        |

## Turning Proportions

### Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      | To |         |          |        |          |
|------|----|---------|----------|--------|----------|
|      |    | 1       | 2        | 3      | 4        |
| From | 1  | 0.000   | 361.000  | 19.000 | 26.000   |
|      | 2  | 807.000 | 0.000    | 57.000 | 1431.000 |
|      | 3  | 49.000  | 123.000  | 0.000  | 52.000   |
|      | 4  | 65.000  | 1387.000 | 34.000 | 0.000    |

### Turning Proportions (Veh) - Junction 12 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
|      |    | 1    | 2    | 3    | 4    |
| From | 1  | 0.00 | 0.89 | 0.05 | 0.06 |
|      | 2  | 0.35 | 0.00 | 0.02 | 0.62 |
|      | 3  | 0.22 | 0.55 | 0.00 | 0.23 |
|      | 4  | 0.04 | 0.93 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.029 | 1.222 | 1.000 |
|      | 2  | 1.012 | 1.000 | 1.037 | 1.069 |
|      | 3  | 1.000 | 1.009 | 1.000 | 1.020 |
|      | 4  | 1.000 | 1.048 | 1.031 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 2.9 | 22.2 | 0.0 |
|      | 2  | 1.2 | 0.0 | 3.7  | 6.9 |
|      | 3  | 0.0 | 0.9 | 0.0  | 2.0 |
|      | 4  | 0.0 | 4.8 | 3.1  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.54    | 9.35          | 1.14            | A       | 372.55                  | 558.83                        | 62.75                          | 6.74                       | 0.70                                 | 62.76                                    | 6.74                                 |
| 2   | 0.96    | 26.92         | 17.80           | D       | 2105.94                 | 3158.90                       | 598.85                         | 11.37                      | 6.65                                 | 598.89                                   | 11.38                                |
| 3   | 0.47    | 13.06         | 0.88            | B       | 205.55                  | 308.32                        | 42.28                          | 8.23                       | 0.47                                 | 42.28                                    | 8.23                                 |
| 4   | 0.99    | 54.27         | 24.42           | F       | 1363.58                 | 2045.37                       | 679.99                         | 19.95                      | 7.56                                 | 680.03                                   | 19.95                                |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 305.66                | 76.41                   | 304.13              | 690.32             | 1156.16                   | 0.00                       | 1100.00           | 808.67                       | 0.278 | 0.00              | 0.38            | 4.515     | A   |
| 2   | 1727.80               | 431.95                  | 1720.40             | 1401.12            | 59.17                     | 0.00                       | 2650.20           | 2604.50                      | 0.652 | 0.00              | 1.85            | 3.843     | A   |
| 3   | 168.64                | 42.16                   | 167.77              | 82.42              | 1697.14                   | 0.00                       | 941.58            | 463.59                       | 0.179 | 0.00              | 0.22            | 4.648     | A   |
| 4   | 1118.74               | 279.69                  | 1112.71             | 1131.15            | 733.78                    | 0.00                       | 1850.86           | 1534.07                      | 0.604 | 0.00              | 1.51            | 4.839     | A   |



### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 364.99                | 91.25                   | 364.18              | 825.31             | 1382.03                   | 0.00                       | 982.72            | 808.67                       | 0.371 | 0.38              | 0.58            | 5.813     | A   |
| 2   | 2063.16               | 515.79                  | 2056.73             | 1675.41            | 70.79                     | 0.00                       | 2642.23           | 2604.50                      | 0.781 | 1.85              | 3.46            | 6.082     | A   |
| 3   | 201.37                | 50.34                   | 200.82              | 98.55              | 2028.96                   | 0.00                       | 764.06            | 463.59                       | 0.264 | 0.22              | 0.35            | 6.384     | A   |
| 4   | 1335.89               | 333.97                  | 1329.93             | 1352.37            | 877.42                    | 0.00                       | 1766.17           | 1534.07                      | 0.756 | 1.51              | 3.00            | 8.142     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 447.02                | 111.75                  | 444.97              | 994.79             | 1643.73                   | 0.00                       | 846.88            | 808.67                       | 0.528 | 0.58              | 1.10            | 8.913     | A   |
| 2   | 2526.85               | 631.71                  | 2480.44             | 2003.28            | 85.43                     | 0.00                       | 2632.17           | 2604.50                      | 0.960 | 3.46              | 15.06           | 19.560    | C   |
| 3   | 246.63                | 61.66                   | 244.77              | 118.54             | 2447.33                   | 0.00                       | 540.24            | 463.59                       | 0.457 | 0.35              | 0.82            | 12.109    | B   |
| 4   | 1636.12               | 409.03                  | 1578.37             | 1631.94            | 1060.16                   | 0.00                       | 1658.43           | 1534.07                      | 0.987 | 3.00              | 17.43           | 32.591    | D   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 447.02                | 111.75                  | 446.82              | 1008.92            | 1673.14                   | 0.00                       | 831.58            | 808.67                       | 0.538 | 1.10              | 1.14            | 9.349     | A   |
| 2   | 2526.85               | 631.71                  | 2515.90             | 2033.64            | 86.32                     | 0.00                       | 2631.57           | 2604.50                      | 0.960 | 15.06             | 17.80           | 26.925    | D   |
| 3   | 246.63                | 61.66                   | 246.40              | 120.19             | 2482.01                   | 0.00                       | 521.67            | 463.59                       | 0.473 | 0.82              | 0.88            | 13.062    | B   |
| 4   | 1636.12               | 409.03                  | 1608.18             | 1654.55            | 1073.87                   | 0.00                       | 1650.34           | 1534.07                      | 0.991 | 17.43             | 24.42           | 54.270    | F   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 364.99                | 91.25                   | 366.98              | 851.92             | 1469.64                   | 0.00                       | 937.11            | 808.67                       | 0.389 | 1.14              | 0.65            | 6.337     | A   |
| 2   | 2063.16               | 515.79                  | 2119.59             | 1763.46            | 73.17                     | 0.00                       | 2640.65           | 2604.50                      | 0.781 | 17.80             | 3.69            | 7.631     | A   |
| 3   | 201.37                | 50.34                   | 203.35              | 102.31             | 2090.45                   | 0.00                       | 731.15            | 463.59                       | 0.275 | 0.88              | 0.38            | 6.847     | A   |
| 4   | 1335.89               | 333.97                  | 1420.10             | 1392.34            | 901.46                    | 0.00                       | 1751.98           | 1534.07                      | 0.763 | 24.42             | 3.36            | 13.555    | B   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 305.66                | 76.41                   | 306.68              | 696.36             | 1169.66                   | 0.00                       | 1092.99           | 808.67                       | 0.280 | 0.65              | 0.39            | 4.583     | A   |
| 2   | 1727.80               | 431.95                  | 1734.98             | 1416.59            | 59.75                     | 0.00                       | 2649.81           | 2604.50                      | 0.652 | 3.69              | 1.90            | 3.966     | A   |
| 3   | 168.64                | 42.16                   | 169.29              | 83.20              | 1711.52                   | 0.00                       | 933.89            | 463.59                       | 0.181 | 0.38              | 0.22            | 4.713     | A   |
| 4   | 1118.74               | 279.69                  | 1125.96             | 1140.75            | 740.07                    | 0.00                       | 1847.15           | 1534.07                      | 0.606 | 3.36              | 1.56            | 5.040     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.58                           | 0.37                                 | 4.515                                  | A                             | A                           |
| 2   | 26.67                          | 1.78                                 | 3.843                                  | A                             | A                           |
| 3   | 3.17                           | 0.21                                 | 4.648                                  | A                             | A                           |
| 4   | 21.65                          | 1.44                                 | 4.839                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.54                           | 0.57                                 | 5.813                                  | A                             | A                           |
| 2   | 48.88                          | 3.26                                 | 6.082                                  | A                             | A                           |
| 3   | 5.18                           | 0.35                                 | 6.384                                  | A                             | A                           |
| 4   | 41.97                          | 2.80                                 | 8.142                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.67                          | 1.04                                 | 8.913                                  | A                             | A                           |
| 2   | 172.89                         | 11.53                                | 19.560                                 | C                             | B                           |
| 3   | 11.62                          | 0.77                                 | 12.109                                 | B                             | B                           |
| 4   | 182.90                         | 12.19                                | 32.591                                 | D                             | C                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 16.94                          | 1.13                                 | 9.349                                  | A                             | A                           |
| 2   | 249.15                         | 16.61                                | 26.925                                 | D                             | C                           |
| 3   | 12.93                          | 0.86                                 | 13.062                                 | B                             | B                           |
| 4   | 317.70                         | 21.18                                | 54.270                                 | F                             | D                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.02                          | 0.67                                 | 6.337                                  | A                             | A                           |
| 2   | 71.73                          | 4.78                                 | 7.631                                  | A                             | A                           |
| 3   | 5.99                           | 0.40                                 | 6.847                                  | A                             | A                           |
| 4   | 91.35                          | 6.09                                 | 13.555                                 | B                             | B                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.01                           | 0.40                                 | 4.583                                  | A                             | A                           |
| 2   | 29.54                          | 1.97                                 | 3.966                                  | A                             | A                           |
| 3   | 3.41                           | 0.23                                 | 4.713                                  | A                             | A                           |
| 4   | 24.41                          | 1.63                                 | 5.040                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, PM | Forecast Background + EA2 Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way. Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 46.05              | E            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 680.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1975.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 146.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1826.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 511.94                            | 517.62                              |                                  |                                        |
| 16:45-17:00  | 2   | 1486.88                           | 1537.49                             |                                  |                                        |
| 16:45-17:00  | 3   | 109.92                            | 112.31                              |                                  |                                        |
| 16:45-17:00  | 4   | 1374.71                           | 1427.13                             |                                  |                                        |
| 17:00-17:15  | 1   | 611.31                            | 618.09                              |                                  |                                        |
| 17:00-17:15  | 2   | 1775.48                           | 1835.91                             |                                  |                                        |
| 17:00-17:15  | 3   | 131.25                            | 134.11                              |                                  |                                        |
| 17:00-17:15  | 4   | 1641.54                           | 1704.14                             |                                  |                                        |
| 17:15-17:30  | 1   | 748.69                            | 757.00                              |                                  |                                        |
| 17:15-17:30  | 2   | 2174.52                           | 2248.52                             |                                  |                                        |
| 17:15-17:30  | 3   | 160.75                            | 164.26                              |                                  |                                        |
| 17:15-17:30  | 4   | 2010.46                           | 2087.13                             |                                  |                                        |
| 17:30-17:45  | 1   | 748.69                            | 757.00                              |                                  |                                        |
| 17:30-17:45  | 2   | 2174.52                           | 2248.52                             |                                  |                                        |
| 17:30-17:45  | 3   | 160.75                            | 164.26                              |                                  |                                        |
| 17:30-17:45  | 4   | 2010.46                           | 2087.13                             |                                  |                                        |
| 17:45-18:00  | 1   | 611.31                            | 618.09                              |                                  |                                        |
| 17:45-18:00  | 2   | 1775.48                           | 1835.91                             |                                  |                                        |
| 17:45-18:00  | 3   | 131.25                            | 134.11                              |                                  |                                        |
| 17:45-18:00  | 4   | 1641.54                           | 1704.14                             |                                  |                                        |
| 18:00-18:15  | 1   | 511.94                            | 517.62                              |                                  |                                        |
| 18:00-18:15  | 2   | 1486.88                           | 1537.49                             |                                  |                                        |
| 18:00-18:15  | 3   | 109.92                            | 112.31                              |                                  |                                        |
| 18:00-18:15  | 4   | 1374.71                           | 1427.13                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 552.000  | 23.000  | 105.000  |
|      | 2  | 295.000 | 0.000    | 147.000 | 1533.000 |
|      | 3  | 29.000  | 65.000   | 0.000   | 52.000   |
|      | 4  | 46.000  | 1738.000 | 42.000  | 0.000    |

## Turning Proportions (Veh) - Junction 12 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.81 | 0.03 | 0.15 |
|      | 2  | 0.15 | 0.00 | 0.07 | 0.78 |
|      | 3  | 0.20 | 0.45 | 0.00 | 0.36 |
|      | 4  | 0.03 | 0.95 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.008 | 1.136 | 1.000 |
|      | 2  | 1.039 | 1.000 | 1.014 | 1.035 |
|      | 3  | 1.000 | 1.033 | 1.000 | 1.020 |
|      | 4  | 1.093 | 1.037 | 1.025 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 0.8 | 13.6 | 0.0 |
|      | 2  | 3.9 | 0.0 | 1.4  | 3.5 |
|      | 3  | 0.0 | 3.3 | 0.0  | 2.0 |
|      | 4  | 9.3 | 3.7 | 2.5  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 1.10    | 167.53        | 38.50           | F       | 623.98                  | 935.97                        | 942.55                         | 60.42                      | 10.47                                | 942.58                                   | 60.42                                |
| 2   | 0.83    | 8.20          | 4.84            | A       | 1812.30                 | 2718.45                       | 239.38                         | 5.28                       | 2.66                                 | 239.40                                   | 5.28                                 |
| 3   | 0.22    | 6.40          | 0.28            | A       | 133.97                  | 200.96                        | 16.82                          | 5.02                       | 0.19                                 | 16.82                                    | 5.02                                 |
| 4   | 0.99    | 45.89         | 25.00           | E       | 1675.58                 | 2513.37                       | 734.74                         | 17.54                      | 8.16                                 | 734.79                                   | 17.54                                |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 511.94                | 127.99                  | 507.92              | 277.52             | 1381.74                   | 0.00                       | 1012.82           | 663.24                       | 0.505 | 0.00              | 1.01            | 7.076     | A   |
| 2   | 1486.89               | 371.72                  | 1481.78             | 1762.59            | 127.06                    | 0.00                       | 2642.72           | 2615.58                      | 0.563 | 0.00              | 1.28            | 3.087     | A   |
| 3   | 109.92                | 27.48                   | 109.46              | 158.92             | 1449.91                   | 0.00                       | 1071.35           | 511.03                       | 0.103 | 0.00              | 0.11            | 3.740     | A   |
| 4   | 1374.71               | 343.68                  | 1367.47             | 1267.58            | 291.80                    | 0.00                       | 2122.33           | 1863.67                      | 0.648 | 0.00              | 1.81            | 4.740     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 611.31                | 152.83                  | 606.33              | 331.94             | 1651.78                   | 0.00                       | 870.21            | 663.24                       | 0.702 | 1.01              | 2.25            | 13.396    | B   |
| 2   | 1775.49               | 443.87                  | 1772.37             | 2106.39            | 151.73                    | 0.00                       | 2626.25           | 2615.58                      | 0.676 | 1.28              | 2.06            | 4.201     | A   |
| 3   | 131.25                | 32.81                   | 131.05              | 190.02             | 1734.07                   | 0.00                       | 923.18            | 511.03                       | 0.142 | 0.11              | 0.16            | 4.543     | A   |
| 4   | 1641.54               | 410.39                  | 1634.63             | 1516.00            | 349.10                    | 0.00                       | 2087.49           | 1863.67                      | 0.786 | 1.81              | 3.54            | 7.828     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 748.70                | 187.17                  | 675.18              | 404.15             | 1971.56                   | 0.00                       | 701.33            | 663.24                       | 1.068 | 2.25              | 20.63           | 77.238    | F   |
| 2   | 2174.52               | 543.63                  | 2163.88             | 2474.81            | 171.93                    | 0.00                       | 2612.77           | 2615.58                      | 0.832 | 2.06              | 4.72            | 7.838     | A   |
| 3   | 160.75                | 40.19                   | 160.28              | 228.73             | 2107.07                   | 0.00                       | 728.51            | 511.03                       | 0.221 | 0.16              | 0.28            | 6.330     | A   |
| 4   | 2010.47               | 502.62                  | 1949.31             | 1840.95            | 426.41                    | 0.00                       | 2040.50           | 1863.67                      | 0.985 | 3.54              | 18.83           | 28.881    | D   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 748.70                | 187.17                  | 677.20              | 406.68             | 2007.34                   | 0.00                       | 682.43            | 663.24                       | 1.097 | 20.63             | 38.50           | 167.527   | F   |
| 2   | 2174.52               | 543.63                  | 2174.04             | 2511.38            | 173.15                    | 0.00                       | 2611.95           | 2615.58                      | 0.833 | 4.72              | 4.84            | 8.195     | A   |
| 3   | 160.75                | 40.19                   | 160.73              | 230.39             | 2116.80                   | 0.00                       | 723.43            | 511.03                       | 0.222 | 0.28              | 0.28            | 6.397     | A   |
| 4   | 2010.47               | 502.62                  | 1985.81             | 1849.30            | 428.22                    | 0.00                       | 2039.40           | 1863.67                      | 0.986 | 18.83             | 25.00           | 45.892    | E   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 611.31                | 152.83                  | 751.81              | 336.44             | 1741.20                   | 0.00                       | 822.98            | 663.24                       | 0.743 | 38.50             | 3.38            | 81.278    | F   |
| 2   | 1775.49               | 443.87                  | 1786.18             | 2311.79            | 181.22                    | 0.00                       | 2606.57           | 2615.58                      | 0.681 | 4.84              | 2.17            | 4.445     | A   |
| 3   | 131.25                | 32.81                   | 131.70              | 198.07             | 1769.31                   | 0.00                       | 905.16            | 511.03                       | 0.145 | 0.28              | 0.17            | 4.658     | A   |
| 4   | 1641.54               | 410.39                  | 1726.05             | 1549.44            | 351.59                    | 0.00                       | 2085.98           | 1863.67                      | 0.787 | 25.00             | 3.87            | 12.273    | B   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 511.94                | 127.99                  | 521.23              | 279.32             | 1396.91                   | 0.00                       | 1004.81           | 663.24                       | 0.509 | 3.38              | 1.06            | 7.581     | A   |
| 2   | 1486.89               | 371.72                  | 1490.37             | 1788.23            | 129.92                    | 0.00                       | 2640.81           | 2615.58                      | 0.563 | 2.17              | 1.30            | 3.137     | A   |
| 3   | 109.92                | 27.48                   | 110.14              | 160.36             | 1459.92                   | 0.00                       | 1066.16           | 511.03                       | 0.103 | 0.17              | 0.12            | 3.765     | A   |
| 4   | 1374.71               | 343.68                  | 1382.72             | 1276.54            | 293.52                    | 0.00                       | 2121.28           | 1863.67                      | 0.648 | 3.87              | 1.87            | 4.927     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 14.37                          | 0.96                                 | 7.076                                  | A                             | A                           |
| 2   | 18.60                          | 1.24                                 | 3.087                                  | A                             | A                           |
| 3   | 1.67                           | 0.11                                 | 3.740                                  | A                             | A                           |
| 4   | 25.95                          | 1.73                                 | 4.740                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 31.02                          | 2.07                                 | 13.396                                 | B                             | B                           |
| 2   | 29.82                          | 1.99                                 | 4.201                                  | A                             | A                           |
| 3   | 2.43                           | 0.16                                 | 4.543                                  | A                             | A                           |
| 4   | 49.45                          | 3.30                                 | 7.828                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 189.12                         | 12.61                                | 77.238                                 | F                             | E                           |
| 2   | 64.93                          | 4.33                                 | 7.838                                  | A                             | A                           |
| 3   | 4.10                           | 0.27                                 | 6.330                                  | A                             | A                           |
| 4   | 199.74                         | 13.32                                | 28.881                                 | D                             | C                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 445.06                         | 29.67                                | 167.527                                | F                             | F                           |
| 2   | 71.90                          | 4.79                                 | 8.195                                  | A                             | A                           |
| 3   | 4.24                           | 0.28                                 | 6.397                                  | A                             | A                           |
| 4   | 332.42                         | 22.16                                | 45.892                                 | E                             | D                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 245.91                         | 16.39                                | 81.278                                 | F                             | F                           |
| 2   | 34.13                          | 2.28                                 | 4.445                                  | A                             | A                           |
| 3   | 2.62                           | 0.17                                 | 4.658                                  | A                             | A                           |
| 4   | 97.85                          | 6.52                                 | 12.273                                 | B                             | B                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 17.07                          | 1.14                                 | 7.581                                  | A                             | A                           |
| 2   | 19.99                          | 1.33                                 | 3.137                                  | A                             | A                           |
| 3   | 1.76                           | 0.12                                 | 3.765                                  | A                             | A                           |
| 4   | 29.32                          | 1.95                                 | 4.927                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |



## Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, AM | Forecast Background + EA2 + EA1N Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way. Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 35.90              | E            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 406.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 2306.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 224.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1489.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 305.66                            | 316.72                              |                                  |                                        |
| 08:00-08:15  | 2   | 1736.08                           | 1822.03                             |                                  |                                        |
| 08:00-08:15  | 3   | 168.64                            | 170.26                              |                                  |                                        |
| 08:00-08:15  | 4   | 1121.00                           | 1174.11                             |                                  |                                        |
| 08:15-08:30  | 1   | 364.99                            | 378.19                              |                                  |                                        |
| 08:15-08:30  | 2   | 2073.05                           | 2175.69                             |                                  |                                        |
| 08:15-08:30  | 3   | 201.37                            | 203.30                              |                                  |                                        |
| 08:15-08:30  | 4   | 1338.58                           | 1402.01                             |                                  |                                        |
| 08:30-08:45  | 1   | 447.01                            | 463.19                              |                                  |                                        |
| 08:30-08:45  | 2   | 2538.95                           | 2664.66                             |                                  |                                        |
| 08:30-08:45  | 3   | 246.63                            | 248.99                              |                                  |                                        |
| 08:30-08:45  | 4   | 1639.42                           | 1717.10                             |                                  |                                        |
| 08:45-09:00  | 1   | 447.01                            | 463.19                              |                                  |                                        |
| 08:45-09:00  | 2   | 2538.95                           | 2664.66                             |                                  |                                        |
| 08:45-09:00  | 3   | 246.63                            | 248.99                              |                                  |                                        |
| 08:45-09:00  | 4   | 1639.42                           | 1717.10                             |                                  |                                        |
| 09:00-09:15  | 1   | 364.99                            | 378.19                              |                                  |                                        |
| 09:00-09:15  | 2   | 2073.05                           | 2175.69                             |                                  |                                        |
| 09:00-09:15  | 3   | 201.37                            | 203.30                              |                                  |                                        |
| 09:00-09:15  | 4   | 1338.58                           | 1402.01                             |                                  |                                        |
| 09:15-09:30  | 1   | 305.66                            | 316.72                              |                                  |                                        |
| 09:15-09:30  | 2   | 1736.08                           | 1822.03                             |                                  |                                        |
| 09:15-09:30  | 3   | 168.64                            | 170.26                              |                                  |                                        |
| 09:15-09:30  | 4   | 1121.00                           | 1174.11                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      |   | To      |          |        |          |
|------|---|---------|----------|--------|----------|
| From |   | 1       | 2        | 3      | 4        |
|      | 1 | 0.000   | 361.000  | 19.000 | 26.000   |
|      | 2 | 807.000 | 0.000    | 57.000 | 1442.000 |
|      | 3 | 49.000  | 123.000  | 0.000  | 52.000   |
|      | 4 | 65.000  | 1390.000 | 34.000 | 0.000    |

## Turning Proportions (Veh) - Junction 12 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.89 | 0.05 | 0.06 |
|      | 2 | 0.35 | 0.00 | 0.02 | 0.63 |
|      | 3 | 0.22 | 0.55 | 0.00 | 0.23 |
|      | 4 | 0.04 | 0.93 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.029 | 1.222 | 1.000 |
|      | 2  | 1.012 | 1.000 | 1.037 | 1.071 |
|      | 3  | 1.000 | 1.009 | 1.000 | 1.020 |
|      | 4  | 1.000 | 1.050 | 1.031 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 2.9 | 22.2 | 0.0 |
|      | 2  | 1.2 | 0.0 | 3.7  | 7.1 |
|      | 3  | 0.0 | 0.9 | 0.0  | 2.0 |
|      | 4  | 0.0 | 5.0 | 3.1  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.54    | 9.40          | 1.15            | A       | 372.55                  | 558.83                        | 63.07                          | 6.77                       | 0.70                                 | 63.07                                    | 6.77                                 |
| 2   | 0.97    | 29.31         | 19.54           | D       | 2116.03                 | 3174.05                       | 638.36                         | 12.07                      | 7.09                                 | 638.41                                   | 12.07                                |
| 3   | 0.48    | 13.39         | 0.90            | B       | 205.55                  | 308.32                        | 43.04                          | 8.38                       | 0.48                                 | 43.05                                    | 8.38                                 |
| 4   | 0.99    | 56.54         | 25.67           | F       | 1366.34                 | 2049.51                       | 706.17                         | 20.67                      | 7.85                                 | 706.21                                   | 20.67                                |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 305.66                | 76.41                   | 304.13              | 690.28             | 1158.36                   | 0.00                       | 1097.82           | 806.94                       | 0.278 | 0.00              | 0.38            | 4.528     | A   |
| 2   | 1736.08               | 434.02                  | 1728.55             | 1403.32            | 59.17                     | 0.00                       | 2646.80           | 2601.32                      | 0.656 | 0.00              | 1.88            | 3.889     | A   |
| 3   | 168.64                | 42.16                   | 167.77              | 82.42              | 1705.30                   | 0.00                       | 936.02            | 463.35                       | 0.180 | 0.00              | 0.22            | 4.681     | A   |
| 4   | 1121.00               | 280.25                  | 1114.91             | 1139.33            | 733.74                    | 0.00                       | 1847.58           | 1534.67                      | 0.607 | 0.00              | 1.52            | 4.874     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 364.99                | 91.25                   | 364.17              | 825.23             | 1384.60                   | 0.00                       | 980.14            | 806.94                       | 0.372 | 0.38              | 0.59            | 5.837     | A   |
| 2   | 2073.05               | 518.26                  | 2066.37             | 1677.99            | 70.79                     | 0.00                       | 2638.84           | 2601.32                      | 0.786 | 1.88              | 3.55            | 6.215     | A   |
| 3   | 201.37                | 50.34                   | 200.81              | 98.55              | 2038.61                   | 0.00                       | 757.47            | 463.35                       | 0.266 | 0.22              | 0.36            | 6.460     | A   |
| 4   | 1338.58               | 334.65                  | 1332.51             | 1362.09            | 877.33                    | 0.00                       | 1763.06           | 1534.67                      | 0.759 | 1.52              | 3.04            | 8.245     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 447.02                | 111.75                  | 444.96              | 993.29             | 1644.81                   | 0.00                       | 844.86            | 806.94                       | 0.529 | 0.59              | 1.10            | 8.956     | A   |
| 2   | 2538.96               | 634.74                  | 2488.36             | 2004.37            | 85.38                     | 0.00                       | 2628.82           | 2601.32                      | 0.966 | 3.55              | 16.20           | 20.668    | C   |
| 3   | 246.63                | 61.66                   | 244.72              | 118.39             | 2455.35                   | 0.00                       | 534.24            | 463.35                       | 0.462 | 0.36              | 0.84            | 12.355    | B   |
| 4   | 1639.42               | 409.86                  | 1579.37             | 1641.34            | 1058.73                   | 0.00                       | 1656.31           | 1534.67                      | 0.990 | 3.04              | 18.05           | 33.441    | D   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 447.02                | 111.75                  | 446.82              | 1007.98            | 1674.00                   | 0.00                       | 829.64            | 806.94                       | 0.539 | 1.10              | 1.15            | 9.397     | A   |
| 2   | 2538.96               | 634.74                  | 2525.60             | 2034.57            | 86.26                     | 0.00                       | 2628.23           | 2601.32                      | 0.966 | 16.20             | 19.54           | 29.309    | D   |
| 3   | 246.63                | 61.66                   | 246.38              | 120.08             | 2491.78                   | 0.00                       | 514.71            | 463.35                       | 0.479 | 0.84              | 0.90            | 13.392    | B   |
| 4   | 1639.42               | 409.86                  | 1608.96             | 1665.13            | 1073.03                   | 0.00                       | 1647.89           | 1534.67                      | 0.995 | 18.05             | 25.67           | 56.541    | F   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 364.99                | 91.25                   | 366.98              | 854.32             | 1476.90                   | 0.00                       | 932.01            | 806.94                       | 0.392 | 1.15              | 0.65            | 6.392     | A   |
| 2   | 2073.05               | 518.26                  | 2136.00             | 1770.61            | 73.27                     | 0.00                       | 2637.18           | 2601.32                      | 0.786 | 19.54             | 3.80            | 8.053     | A   |
| 3   | 201.37                | 50.34                   | 203.41              | 102.57             | 2106.70                   | 0.00                       | 720.98            | 463.35                       | 0.279 | 0.90              | 0.39            | 6.984     | A   |
| 4   | 1338.58               | 334.65                  | 1427.53             | 1406.41            | 903.69                    | 0.00                       | 1747.54           | 1534.67                      | 0.766 | 25.67             | 3.43            | 14.330    | B   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 305.66                | 76.41                   | 306.70              | 696.47             | 1172.15                   | 0.00                       | 1090.64           | 806.94                       | 0.280 | 0.65              | 0.39            | 4.597     | A   |
| 2   | 1736.08               | 434.02                  | 1743.57             | 1419.09            | 59.76                     | 0.00                       | 2646.39           | 2601.32                      | 0.656 | 3.80              | 1.93            | 4.019     | A   |
| 3   | 168.64                | 42.16                   | 169.31              | 83.22              | 1720.11                   | 0.00                       | 928.09            | 463.35                       | 0.182 | 0.39              | 0.22            | 4.750     | A   |
| 4   | 1121.00               | 280.25                  | 1128.45             | 1149.24            | 740.18                    | 0.00                       | 1843.78           | 1534.67                      | 0.608 | 3.43              | 1.57            | 5.083     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.59                           | 0.37                                 | 4.528                                  | A                             | A                           |
| 2   | 27.11                          | 1.81                                 | 3.889                                  | A                             | A                           |
| 3   | 3.19                           | 0.21                                 | 4.681                                  | A                             | A                           |
| 4   | 21.85                          | 1.46                                 | 4.874                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.57                           | 0.57                                 | 5.837                                  | A                             | A                           |
| 2   | 50.11                          | 3.34                                 | 6.215                                  | A                             | A                           |
| 3   | 5.23                           | 0.35                                 | 6.460                                  | A                             | A                           |
| 4   | 42.55                          | 2.84                                 | 8.245                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 15.74                          | 1.05                                 | 8.956                                  | A                             | A                           |
| 2   | 183.02                         | 12.20                                | 20.668                                 | C                             | C                           |
| 3   | 11.84                          | 0.79                                 | 12.355                                 | B                             | B                           |
| 4   | 187.91                         | 12.53                                | 33.441                                 | D                             | C                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 17.02                          | 1.13                                 | 9.397                                  | A                             | A                           |
| 2   | 271.10                         | 18.07                                | 29.309                                 | D                             | C                           |
| 3   | 13.24                          | 0.88                                 | 13.392                                 | B                             | B                           |
| 4   | 331.80                         | 22.12                                | 56.541                                 | F                             | E                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.12                          | 0.67                                 | 6.392                                  | A                             | A                           |
| 2   | 76.93                          | 5.13                                 | 8.053                                  | A                             | A                           |
| 3   | 6.11                           | 0.41                                 | 6.984                                  | A                             | A                           |
| 4   | 97.38                          | 6.49                                 | 14.330                                 | B                             | B                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.03                           | 0.40                                 | 4.597                                  | A                             | A                           |
| 2   | 30.09                          | 2.01                                 | 4.019                                  | A                             | A                           |
| 3   | 3.43                           | 0.23                                 | 4.750                                  | A                             | A                           |
| 4   | 24.68                          | 1.65                                 | 5.083                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, PM | Forecast Background + EA2 + EA1N Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

## Junction Network

### Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way. Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 49.06              | E            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 680.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1978.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 146.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1836.00                      | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 511.94                            | 517.62                              |                                  |                                        |
| 16:45-17:00  | 2   | 1489.14                           | 1542.14                             |                                  |                                        |
| 16:45-17:00  | 3   | 109.92                            | 112.31                              |                                  |                                        |
| 16:45-17:00  | 4   | 1382.24                           | 1437.57                             |                                  |                                        |
| 17:00-17:15  | 1   | 611.31                            | 618.09                              |                                  |                                        |
| 17:00-17:15  | 2   | 1778.18                           | 1841.47                             |                                  |                                        |
| 17:00-17:15  | 3   | 131.25                            | 134.11                              |                                  |                                        |
| 17:00-17:15  | 4   | 1650.53                           | 1716.60                             |                                  |                                        |
| 17:15-17:30  | 1   | 748.69                            | 757.00                              |                                  |                                        |
| 17:15-17:30  | 2   | 2177.82                           | 2255.32                             |                                  |                                        |
| 17:15-17:30  | 3   | 160.75                            | 164.26                              |                                  |                                        |
| 17:15-17:30  | 4   | 2021.47                           | 2102.40                             |                                  |                                        |
| 17:30-17:45  | 1   | 748.69                            | 757.00                              |                                  |                                        |
| 17:30-17:45  | 2   | 2177.82                           | 2255.32                             |                                  |                                        |
| 17:30-17:45  | 3   | 160.75                            | 164.26                              |                                  |                                        |
| 17:30-17:45  | 4   | 2021.47                           | 2102.40                             |                                  |                                        |
| 17:45-18:00  | 1   | 611.31                            | 618.09                              |                                  |                                        |
| 17:45-18:00  | 2   | 1778.18                           | 1841.47                             |                                  |                                        |
| 17:45-18:00  | 3   | 131.25                            | 134.11                              |                                  |                                        |
| 17:45-18:00  | 4   | 1650.53                           | 1716.60                             |                                  |                                        |
| 18:00-18:15  | 1   | 511.94                            | 517.62                              |                                  |                                        |
| 18:00-18:15  | 2   | 1489.14                           | 1542.14                             |                                  |                                        |
| 18:00-18:15  | 3   | 109.92                            | 112.31                              |                                  |                                        |
| 18:00-18:15  | 4   | 1382.24                           | 1437.57                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
| From |   | 1       | 2        | 3       | 4        |
|      | 1 | 0.000   | 552.000  | 23.000  | 105.000  |
|      | 2 | 295.000 | 0.000    | 147.000 | 1536.000 |
|      | 3 | 29.000  | 65.000   | 0.000   | 52.000   |
|      | 4 | 46.000  | 1748.000 | 42.000  | 0.000    |

## Turning Proportions (Veh) - Junction 12 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.81 | 0.03 | 0.15 |
|      | 2 | 0.15 | 0.00 | 0.07 | 0.78 |
|      | 3 | 0.20 | 0.45 | 0.00 | 0.36 |
|      | 4 | 0.03 | 0.95 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.008 | 1.136 | 1.000 |
|      | 2  | 1.039 | 1.000 | 1.014 | 1.037 |
|      | 3  | 1.000 | 1.033 | 1.000 | 1.020 |
|      | 4  | 1.093 | 1.039 | 1.025 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 0.8 | 13.6 | 0.0 |
|      | 2  | 3.9 | 0.0 | 1.4  | 3.7 |
|      | 3  | 0.0 | 3.3 | 0.0  | 2.0 |
|      | 4  | 9.3 | 3.9 | 2.5  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 1.10    | 175.39        | 40.37           | F       | 623.98                  | 935.97                        | 1005.20                        | 64.44                      | 11.17                                | 1005.23                                  | 64.44                                |
| 2   | 0.83    | 8.32          | 4.92            | A       | 1815.05                 | 2722.57                       | 242.39                         | 5.34                       | 2.69                                 | 242.41                                   | 5.34                                 |
| 3   | 0.22    | 6.43          | 0.29            | A       | 133.97                  | 200.96                        | 16.89                          | 5.04                       | 0.19                                 | 16.89                                    | 5.04                                 |
| 4   | 0.99    | 50.60         | 28.13           | F       | 1684.75                 | 2527.13                       | 801.48                         | 19.03                      | 8.91                                 | 801.54                                   | 19.03                                |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 511.94                | 127.99                  | 507.88              | 277.51             | 1389.13                   | 0.00                       | 1007.59           | 662.71                       | 0.508 | 0.00              | 1.02            | 7.148     | A   |
| 2   | 1489.14               | 372.29                  | 1484.00             | 1769.96            | 127.05                    | 0.00                       | 2638.75           | 2611.90                      | 0.564 | 0.00              | 1.29            | 3.103     | A   |
| 3   | 109.92                | 27.48                   | 109.46              | 158.92             | 1452.13                   | 0.00                       | 1069.03           | 510.64                       | 0.103 | 0.00              | 0.11            | 3.749     | A   |
| 4   | 1382.24               | 345.56                  | 1374.85             | 1269.80            | 291.80                    | 0.00                       | 2118.45           | 1861.11                      | 0.652 | 0.00              | 1.85            | 4.795     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 611.31                | 152.83                  | 606.17              | 331.93             | 1660.47                   | 0.00                       | 864.03            | 662.71                       | 0.708 | 1.02              | 2.30            | 13.696    | B   |
| 2   | 1778.18               | 444.54                  | 1775.01             | 2114.94            | 151.69                    | 0.00                       | 2622.32           | 2611.91                      | 0.678 | 1.29              | 2.08            | 4.232     | A   |
| 3   | 131.25                | 32.81                   | 131.05              | 190.01             | 1736.70                   | 0.00                       | 920.41            | 510.64                       | 0.143 | 0.11              | 0.17            | 4.559     | A   |
| 4   | 1650.53               | 412.63                  | 1643.30             | 1518.64            | 349.10                    | 0.00                       | 2083.68           | 1861.11                      | 0.792 | 1.85              | 3.66            | 8.043     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 748.70                | 187.17                  | 672.12              | 403.97             | 1976.42                   | 0.00                       | 696.86            | 662.71                       | 1.074 | 2.30              | 21.45           | 79.901    | F   |
| 2   | 2177.82               | 544.45                  | 2166.94             | 2477.32            | 171.22                    | 0.00                       | 2609.31           | 2611.91                      | 0.835 | 2.08              | 4.79            | 7.948     | A   |
| 3   | 160.75                | 40.19                   | 160.28              | 228.48             | 2109.68                   | 0.00                       | 725.43            | 510.64                       | 0.222 | 0.17              | 0.28            | 6.364     | A   |
| 4   | 2021.48               | 505.37                  | 1954.03             | 1843.60            | 426.38                    | 0.00                       | 2036.79           | 1861.11                      | 0.992 | 3.66              | 20.52           | 30.730    | D   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 748.70                | 187.17                  | 672.99              | 406.54             | 2012.70                   | 0.00                       | 677.67            | 662.71                       | 1.105 | 21.45             | 40.37           | 175.389   | F   |
| 2   | 2177.82               | 544.45                  | 2177.32             | 2513.47            | 172.23                    | 0.00                       | 2608.63           | 2611.91                      | 0.835 | 4.79              | 4.92            | 8.320     | A   |
| 3   | 160.75                | 40.19                   | 160.73              | 230.12             | 2119.43                   | 0.00                       | 720.34            | 510.64                       | 0.223 | 0.28              | 0.29            | 6.432     | A   |
| 4   | 2021.48               | 505.37                  | 1991.03             | 1851.94            | 428.21                    | 0.00                       | 2035.68           | 1861.11                      | 0.993 | 20.52             | 28.13           | 50.599    | F   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 611.31                | 152.83                  | 757.78              | 336.76             | 1761.83                   | 0.00                       | 810.39            | 662.71                       | 0.754 | 40.37             | 3.76            | 94.412    | F   |
| 2   | 1778.18               | 444.54                  | 1789.09             | 2336.99            | 182.60                    | 0.00                       | 2601.72           | 2611.91                      | 0.683 | 4.92              | 2.19            | 4.489     | A   |
| 3   | 131.25                | 32.81                   | 131.71              | 198.55             | 1773.14                   | 0.00                       | 901.78            | 510.64                       | 0.146 | 0.29              | 0.17            | 4.679     | A   |
| 4   | 1650.53               | 412.63                  | 1746.96             | 1553.22            | 351.62                    | 0.00                       | 2082.15           | 1861.11                      | 0.793 | 28.13             | 4.03            | 13.736    | B   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 511.94                | 127.99                  | 522.69              | 279.34             | 1404.90                   | 0.00                       | 999.25            | 662.71                       | 0.512 | 3.76              | 1.07            | 7.719     | A   |
| 2   | 1489.14               | 372.29                  | 1492.68             | 1797.37            | 130.20                    | 0.00                       | 2636.65           | 2611.90                      | 0.565 | 2.19              | 1.31            | 3.158     | A   |
| 3   | 109.92                | 27.48                   | 110.14              | 160.42             | 1462.46                   | 0.00                       | 1063.67           | 510.64                       | 0.103 | 0.17              | 0.12            | 3.775     | A   |
| 4   | 1382.24               | 345.56                  | 1390.70             | 1279.07            | 293.53                    | 0.00                       | 2117.40           | 1861.11                      | 0.653 | 4.03              | 1.91            | 5.009     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 14.51                          | 0.97                                 | 7.148                                  | A                             | A                           |
| 2   | 18.72                          | 1.25                                 | 3.103                                  | A                             | A                           |
| 3   | 1.68                           | 0.11                                 | 3.749                                  | A                             | A                           |
| 4   | 26.46                          | 1.76                                 | 4.795                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 31.65                          | 2.11                                 | 13.696                                 | B                             | B                           |
| 2   | 30.08                          | 2.01                                 | 4.232                                  | A                             | A                           |
| 3   | 2.44                           | 0.16                                 | 4.559                                  | A                             | A                           |
| 4   | 50.95                          | 3.40                                 | 8.043                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 195.19                         | 13.01                                | 79.901                                 | F                             | E                           |
| 2   | 65.86                          | 4.39                                 | 7.948                                  | A                             | A                           |
| 3   | 4.12                           | 0.27                                 | 6.364                                  | A                             | A                           |
| 4   | 213.40                         | 14.23                                | 30.730                                 | D                             | C                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 465.07                         | 31.00                                | 175.389                                | F                             | F                           |
| 2   | 73.05                          | 4.87                                 | 8.320                                  | A                             | A                           |
| 3   | 4.27                           | 0.28                                 | 6.432                                  | A                             | A                           |
| 4   | 368.75                         | 24.58                                | 50.599                                 | F                             | D                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 281.34                         | 18.76                                | 94.412                                 | F                             | F                           |
| 2   | 34.53                          | 2.30                                 | 4.489                                  | A                             | A                           |
| 3   | 2.63                           | 0.18                                 | 4.679                                  | A                             | A                           |
| 4   | 111.90                         | 7.46                                 | 13.736                                 | B                             | B                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 17.45                          | 1.16                                 | 7.719                                  | A                             | A                           |
| 2   | 20.14                          | 1.34                                 | 3.158                                  | A                             | A                           |
| 3   | 1.77                           | 0.12                                 | 3.775                                  | A                             | A                           |
| 4   | 30.01                          | 2.00                                 | 5.009                                  | A                             | A                           |

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, AM | Background 2019 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way. Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 14.59              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 384.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 2131.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 211.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1394.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 289.10                            | 299.55                              |                                  |                                        |
| 08:00-08:15  | 2   | 1604.33                           | 1676.04                             |                                  |                                        |
| 08:00-08:15  | 3   | 158.85                            | 160.38                              |                                  |                                        |
| 08:00-08:15  | 4   | 1049.48                           | 1090.38                             |                                  |                                        |
| 08:15-08:30  | 1   | 345.21                            | 357.69                              |                                  |                                        |
| 08:15-08:30  | 2   | 1915.73                           | 2001.35                             |                                  |                                        |
| 08:15-08:30  | 3   | 189.68                            | 191.50                              |                                  |                                        |
| 08:15-08:30  | 4   | 1253.18                           | 1302.02                             |                                  |                                        |
| 08:30-08:45  | 1   | 422.79                            | 438.08                              |                                  |                                        |
| 08:30-08:45  | 2   | 2346.27                           | 2451.15                             |                                  |                                        |
| 08:30-08:45  | 3   | 232.32                            | 234.54                              |                                  |                                        |
| 08:30-08:45  | 4   | 1534.82                           | 1594.64                             |                                  |                                        |
| 08:45-09:00  | 1   | 422.79                            | 438.08                              |                                  |                                        |
| 08:45-09:00  | 2   | 2346.27                           | 2451.15                             |                                  |                                        |
| 08:45-09:00  | 3   | 232.32                            | 234.54                              |                                  |                                        |
| 08:45-09:00  | 4   | 1534.82                           | 1594.64                             |                                  |                                        |
| 09:00-09:15  | 1   | 345.21                            | 357.69                              |                                  |                                        |
| 09:00-09:15  | 2   | 1915.73                           | 2001.35                             |                                  |                                        |
| 09:00-09:15  | 3   | 189.68                            | 191.50                              |                                  |                                        |
| 09:00-09:15  | 4   | 1253.18                           | 1302.02                             |                                  |                                        |
| 09:15-09:30  | 1   | 289.10                            | 299.55                              |                                  |                                        |
| 09:15-09:30  | 2   | 1604.33                           | 1676.04                             |                                  |                                        |
| 09:15-09:30  | 3   | 158.85                            | 160.38                              |                                  |                                        |
| 09:15-09:30  | 4   | 1049.48                           | 1090.38                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      | To |         |          |        |          |
|------|----|---------|----------|--------|----------|
|      |    | 1       | 2        | 3      | 4        |
| From | 1  | 0.000   | 341.000  | 18.000 | 25.000   |
|      | 2  | 763.000 | 0.000    | 54.000 | 1314.000 |
|      | 3  | 46.000  | 116.000  | 0.000  | 49.000   |
|      | 4  | 61.000  | 1301.000 | 32.000 | 0.000    |

## Turning Proportions (Veh) - Junction 12 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
|      |    | 1    | 2    | 3    | 4    |
| From | 1  | 0.00 | 0.89 | 0.05 | 0.07 |
|      | 2  | 0.36 | 0.00 | 0.03 | 0.62 |
|      | 3  | 0.22 | 0.55 | 0.00 | 0.23 |
|      | 4  | 0.04 | 0.93 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.029 | 1.222 | 1.000 |
|      | 2  | 1.012 | 1.000 | 1.037 | 1.064 |
|      | 3  | 1.000 | 1.009 | 1.000 | 1.020 |
|      | 4  | 1.000 | 1.041 | 1.031 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 2.9 | 22.2 | 0.0 |
|      | 2  | 1.2 | 0.0 | 3.7  | 6.4 |
|      | 3  | 0.0 | 0.9 | 0.0  | 2.0 |
|      | 4  | 0.0 | 4.1 | 3.1  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.48    | 7.90          | 0.92            | A       | 352.36                  | 528.55                        | 52.09                          | 5.91                       | 0.58                                 | 52.09                                    | 5.91                                 |
| 2   | 0.89    | 11.93         | 7.48            | B       | 1955.44                 | 2933.16                       | 328.89                         | 6.73                       | 3.65                                 | 328.92                                   | 6.73                                 |
| 3   | 0.38    | 9.37          | 0.60            | A       | 193.62                  | 290.43                        | 31.71                          | 6.55                       | 0.35                                 | 31.71                                    | 6.55                                 |
| 4   | 0.91    | 21.29         | 8.57            | C       | 1279.15                 | 1918.73                       | 329.80                         | 10.31                      | 3.66                                 | 329.82                                   | 10.31                                |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 289.10                | 72.27                   | 287.74              | 652.45             | 1085.73                   | 0.00                       | 1139.99           | 814.40                       | 0.254 | 0.00              | 0.34            | 4.217     | A   |
| 2   | 1604.32               | 401.08                  | 1598.31             | 1317.28            | 56.20                     | 0.00                       | 2661.03           | 2612.03                      | 0.603 | 0.00              | 1.50            | 3.368     | A   |
| 3   | 158.85                | 39.71                   | 158.11              | 77.97              | 1576.55                   | 0.00                       | 1008.93           | 464.34                       | 0.157 | 0.00              | 0.19            | 4.227     | A   |
| 4   | 1049.47               | 262.37                  | 1044.51             | 1040.99            | 693.66                    | 0.00                       | 1886.29           | 1531.87                      | 0.556 | 0.00              | 1.24            | 4.252     | A   |



### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 345.21                | 86.30                   | 344.56              | 780.36             | 1298.65                   | 0.00                       | 1030.09           | 814.40                       | 0.335 | 0.34              | 0.50            | 5.247     | A   |
| 2   | 1915.72               | 478.93                  | 1911.54             | 1575.95            | 67.26                     | 0.00                       | 2653.42           | 2612.03                      | 0.722 | 1.50              | 2.55            | 4.826     | A   |
| 3   | 189.69                | 47.42                   | 189.28              | 93.27              | 1885.55                   | 0.00                       | 844.17            | 464.34                       | 0.225 | 0.19              | 0.29            | 5.493     | A   |
| 4   | 1253.17               | 313.29                  | 1249.26             | 1245.07            | 829.74                    | 0.00                       | 1805.55           | 1531.87                      | 0.694 | 1.24              | 2.22            | 6.427     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 422.79                | 105.70                  | 421.21              | 950.09             | 1573.48                   | 0.00                       | 888.25            | 814.40                       | 0.476 | 0.50              | 0.89            | 7.682     | A   |
| 2   | 2346.27               | 586.57                  | 2327.93             | 1912.81            | 81.89                     | 0.00                       | 2643.35           | 2612.03                      | 0.888 | 2.55              | 7.13            | 10.834    | B   |
| 3   | 232.32                | 58.08                   | 231.14              | 113.46             | 2296.37                   | 0.00                       | 625.13            | 464.34                       | 0.372 | 0.29              | 0.58            | 9.110     | A   |
| 4   | 1534.82               | 383.70                  | 1512.60             | 1516.52            | 1010.98                   | 0.00                       | 1698.03           | 1531.87                      | 0.904 | 2.22              | 7.77            | 17.643    | C   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 422.79                | 105.70                  | 422.70              | 957.23             | 1592.30                   | 0.00                       | 878.52            | 814.40                       | 0.481 | 0.89              | 0.92            | 7.896     | A   |
| 2   | 2346.27               | 586.57                  | 2344.87             | 1932.51            | 82.49                     | 0.00                       | 2642.95           | 2612.03                      | 0.888 | 7.13              | 7.48            | 11.932    | B   |
| 3   | 232.32                | 58.08                   | 232.25              | 114.39             | 2312.99                   | 0.00                       | 616.27            | 464.34                       | 0.377 | 0.58              | 0.60            | 9.372     | A   |
| 4   | 1534.82               | 383.70                  | 1531.63             | 1527.34            | 1017.89                   | 0.00                       | 1693.92           | 1531.87                      | 0.906 | 7.77              | 8.57            | 21.294    | C   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 345.21                | 86.30                   | 346.80              | 790.38             | 1327.08                   | 0.00                       | 1015.39           | 814.40                       | 0.340 | 0.92              | 0.52            | 5.398     | A   |
| 2   | 1915.72               | 478.93                  | 1935.05             | 1605.70            | 68.17                     | 0.00                       | 2652.81           | 2612.03                      | 0.722 | 7.48              | 2.65            | 5.145     | A   |
| 3   | 189.69                | 47.42                   | 190.89              | 94.63              | 1908.60                   | 0.00                       | 831.87            | 464.34                       | 0.228 | 0.60              | 0.30            | 5.626     | A   |
| 4   | 1253.17               | 313.29                  | 1278.06             | 1260.08            | 839.40                    | 0.00                       | 1799.82           | 1531.87                      | 0.696 | 8.57              | 2.35            | 7.214     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 289.10                | 72.27                   | 289.80              | 656.87             | 1095.24                   | 0.00                       | 1135.08           | 814.40                       | 0.255 | 0.52              | 0.34            | 4.263     | A   |
| 2   | 1604.32               | 401.08                  | 1608.79             | 1328.39            | 56.64                     | 0.00                       | 2660.73           | 2612.03                      | 0.603 | 2.65              | 1.53            | 3.438     | A   |
| 3   | 158.85                | 39.71                   | 159.29              | 78.54              | 1586.90                   | 0.00                       | 1003.41           | 464.34                       | 0.158 | 0.30              | 0.19            | 4.266     | A   |
| 4   | 1049.47               | 262.37                  | 1053.78             | 1047.86            | 698.32                    | 0.00                       | 1883.52           | 1531.87                      | 0.557 | 2.35              | 1.27            | 4.360     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.94                           | 0.33                                 | 4.217                                  | A                             | A                           |
| 2   | 21.83                          | 1.46                                 | 3.368                                  | A                             | A                           |
| 3   | 2.72                           | 0.18                                 | 4.227                                  | A                             | A                           |
| 4   | 17.95                          | 1.20                                 | 4.252                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.32                           | 0.49                                 | 5.247                                  | A                             | A                           |
| 2   | 36.63                          | 2.44                                 | 4.826                                  | A                             | A                           |
| 3   | 4.22                           | 0.28                                 | 5.493                                  | A                             | A                           |
| 4   | 31.66                          | 2.11                                 | 6.427                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.89                          | 0.86                                 | 7.682                                  | A                             | A                           |
| 2   | 93.67                          | 6.24                                 | 10.834                                 | B                             | B                           |
| 3   | 8.38                           | 0.56                                 | 9.110                                  | A                             | A                           |
| 4   | 96.73                          | 6.45                                 | 17.643                                 | C                             | B                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.65                          | 0.91                                 | 7.896                                  | A                             | A                           |
| 2   | 110.14                         | 7.34                                 | 11.932                                 | B                             | B                           |
| 3   | 8.90                           | 0.59                                 | 9.372                                  | A                             | A                           |
| 4   | 123.68                         | 8.25                                 | 21.294                                 | C                             | C                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.03                           | 0.54                                 | 5.398                                  | A                             | A                           |
| 2   | 42.93                          | 2.86                                 | 5.145                                  | A                             | A                           |
| 3   | 4.60                           | 0.31                                 | 5.626                                  | A                             | A                           |
| 4   | 40.04                          | 2.67                                 | 7.214                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.27                           | 0.35                                 | 4.263                                  | A                             | A                           |
| 2   | 23.69                          | 1.58                                 | 3.438                                  | A                             | A                           |
| 3   | 2.89                           | 0.19                                 | 4.266                                  | A                             | A                           |
| 4   | 19.73                          | 1.32                                 | 4.360                                  | A                             | A                           |

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

No errors or warnings

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, PM | Background 2019 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name                           | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|--------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 12       | A12, Eagle Way, Barrack Square | Roundabout    | 1,2,3,4   |                 |                  |                    | 16.94              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Barrack Square |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Eagle Way      |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.57                             | 6.00                | 20.00                           | 36.27                | 75.53                             | 9.50                               |           |
| 2   | 8.30                             | 8.71                | 2.00                            | 26.97                | 75.53                             | 8.00                               |           |
| 3   | 3.64                             | 8.55                | 14.70                           | 23.61                | 75.53                             | 25.00                              |           |
| 4   | 7.20                             | 7.20                | 0.00                            | 31.65                | 75.53                             | 8.00                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.515       | 1761.891                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.674       | 2820.363                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.515       | 1867.267                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.610       | 2387.411                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 642.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1856.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 137.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1685.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 483.33                            | 488.72                              |                                  |                                        |
| 16:45-17:00  | 2   | 1397.29                           | 1438.35                             |                                  |                                        |
| 16:45-17:00  | 3   | 103.14                            | 105.39                              |                                  |                                        |
| 16:45-17:00  | 4   | 1268.56                           | 1310.91                             |                                  |                                        |
| 17:00-17:15  | 1   | 577.14                            | 583.58                              |                                  |                                        |
| 17:00-17:15  | 2   | 1668.51                           | 1717.53                             |                                  |                                        |
| 17:00-17:15  | 3   | 123.16                            | 125.85                              |                                  |                                        |
| 17:00-17:15  | 4   | 1514.78                           | 1565.36                             |                                  |                                        |
| 17:15-17:30  | 1   | 706.86                            | 714.74                              |                                  |                                        |
| 17:15-17:30  | 2   | 2043.49                           | 2103.53                             |                                  |                                        |
| 17:15-17:30  | 3   | 150.84                            | 154.14                              |                                  |                                        |
| 17:15-17:30  | 4   | 1855.22                           | 1917.17                             |                                  |                                        |
| 17:30-17:45  | 1   | 706.86                            | 714.74                              |                                  |                                        |
| 17:30-17:45  | 2   | 2043.49                           | 2103.53                             |                                  |                                        |
| 17:30-17:45  | 3   | 150.84                            | 154.14                              |                                  |                                        |
| 17:30-17:45  | 4   | 1855.22                           | 1917.17                             |                                  |                                        |
| 17:45-18:00  | 1   | 577.14                            | 583.58                              |                                  |                                        |
| 17:45-18:00  | 2   | 1668.51                           | 1717.53                             |                                  |                                        |
| 17:45-18:00  | 3   | 123.16                            | 125.85                              |                                  |                                        |
| 17:45-18:00  | 4   | 1514.78                           | 1565.36                             |                                  |                                        |
| 18:00-18:15  | 1   | 483.33                            | 488.72                              |                                  |                                        |
| 18:00-18:15  | 2   | 1397.29                           | 1438.35                             |                                  |                                        |
| 18:00-18:15  | 3   | 103.14                            | 105.39                              |                                  |                                        |
| 18:00-18:15  | 4   | 1268.56                           | 1310.91                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 12 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
| From |   | 1       | 2        | 3       | 4        |
|      | 1 | 0.000   | 521.000  | 22.000  | 99.000   |
|      | 2 | 279.000 | 0.000    | 139.000 | 1438.000 |
|      | 3 | 27.000  | 61.000   | 0.000   | 49.000   |
|      | 4 | 43.000  | 1602.000 | 40.000  | 0.000    |

## Turning Proportions (Veh) - Junction 12 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.81 | 0.03 | 0.15 |
|      | 2 | 0.15 | 0.00 | 0.07 | 0.77 |
|      | 3 | 0.20 | 0.45 | 0.00 | 0.36 |
|      | 4 | 0.03 | 0.95 | 0.02 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 12 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.008 | 1.136 | 1.000 |
|      | 2  | 1.039 | 1.000 | 1.014 | 1.029 |
|      | 3  | 1.000 | 1.033 | 1.000 | 1.020 |
|      | 4  | 1.093 | 1.032 | 1.025 | 1.000 |

## Heavy Vehicle Percentages - Junction 12 (for whole period)

|      | To |     |     |      |     |
|------|----|-----|-----|------|-----|
|      |    | 1   | 2   | 3    | 4   |
| From | 1  | 0.0 | 0.8 | 13.6 | 0.0 |
|      | 2  | 3.9 | 0.0 | 1.4  | 2.9 |
|      | 3  | 0.0 | 3.3 | 0.0  | 2.0 |
|      | 4  | 9.3 | 3.2 | 2.5  | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.93    | 51.64         | 9.50            | F       | 589.11                  | 883.67                        | 296.86                         | 20.16                      | 3.30                                 | 296.88                                   | 20.16                                |
| 2   | 0.78    | 6.21          | 3.48            | A       | 1703.10                 | 2554.65                       | 184.91                         | 4.34                       | 2.05                                 | 184.93                                   | 4.34                                 |
| 3   | 0.19    | 5.63          | 0.23            | A       | 125.71                  | 188.57                        | 14.29                          | 4.55                       | 0.16                                 | 14.29                                    | 4.55                                 |
| 4   | 0.90    | 16.69         | 8.19            | C       | 1546.19                 | 2319.28                       | 339.49                         | 8.78                       | 3.77                                 | 339.52                                   | 8.78                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 483.33                | 120.83                  | 480.09              | 261.86             | 1276.33                   | 0.00                       | 1071.50           | 664.64                       | 0.451 | 0.00              | 0.81            | 6.055     | A   |
| 2   | 1397.29               | 349.32                  | 1392.89             | 1635.96            | 120.46                    | 0.00                       | 2659.07           | 2626.08                      | 0.525 | 0.00              | 1.10            | 2.834     | A   |
| 3   | 103.14                | 25.79                   | 102.74              | 150.75             | 1362.61                   | 0.00                       | 1120.11           | 512.68                       | 0.092 | 0.00              | 0.10            | 3.536     | A   |
| 4   | 1268.56               | 317.14                  | 1262.81             | 1189.97            | 275.37                    | 0.00                       | 2142.09           | 1869.53                      | 0.592 | 0.00              | 1.44            | 4.069     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 577.15                | 144.29                  | 574.20              | 313.25             | 1526.78                   | 0.00                       | 939.84            | 664.64                       | 0.614 | 0.81              | 1.55            | 9.765     | A   |
| 2   | 1668.51               | 417.13                  | 1666.13             | 1956.90            | 144.08                    | 0.00                       | 2643.23           | 2626.08                      | 0.631 | 1.10              | 1.69            | 3.675     | A   |
| 3   | 123.16                | 30.79                   | 122.99              | 180.32             | 1629.90                   | 0.00                       | 981.38            | 512.68                       | 0.126 | 0.10              | 0.14            | 4.192     | A   |
| 4   | 1514.78               | 378.70                  | 1510.56             | 1423.43            | 329.46                    | 0.00                       | 2109.06           | 1869.53                      | 0.718 | 1.44              | 2.49            | 5.971     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 706.86                | 176.71                  | 682.92              | 382.63             | 1854.80                   | 0.00                       | 767.40            | 664.64                       | 0.921 | 1.55              | 7.53            | 35.658    | E   |
| 2   | 2043.49               | 510.87                  | 2036.60             | 2365.44            | 172.26                    | 0.00                       | 2624.32           | 2626.08                      | 0.779 | 1.69              | 3.42            | 6.054     | A   |
| 3   | 150.84                | 37.71                   | 150.48              | 219.48             | 1989.39                   | 0.00                       | 794.75            | 512.68                       | 0.190 | 0.14              | 0.23            | 5.585     | A   |
| 4   | 1855.22               | 463.81                  | 1834.61             | 1737.06            | 402.81                    | 0.00                       | 2064.26           | 1869.53                      | 0.899 | 2.49              | 7.64            | 14.530    | B   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 706.86                | 176.71                  | 698.98              | 384.16             | 1872.92                   | 0.00                       | 757.88            | 664.64                       | 0.933 | 7.53              | 9.50            | 51.639    | F   |
| 2   | 2043.49               | 510.87                  | 2043.26             | 2396.16            | 175.73                    | 0.00                       | 2622.00           | 2626.08                      | 0.779 | 3.42              | 3.48            | 6.214     | A   |
| 3   | 150.84                | 37.71                   | 150.83              | 220.97             | 1998.02                   | 0.00                       | 790.30            | 512.68                       | 0.191 | 0.23              | 0.23            | 5.629     | A   |
| 4   | 1855.22               | 463.81                  | 1853.05             | 1744.82            | 404.03                    | 0.00                       | 2063.51           | 1869.53                      | 0.899 | 7.64              | 8.19            | 16.690    | C   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 577.15                | 144.29                  | 608.33              | 315.43             | 1552.84                   | 0.00                       | 926.14            | 664.64                       | 0.623 | 9.50              | 1.71            | 12.392    | B   |
| 2   | 1668.51               | 417.13                  | 1675.45             | 2010.03            | 151.14                    | 0.00                       | 2638.49           | 2626.08                      | 0.632 | 3.48              | 1.74            | 3.766     | A   |
| 3   | 123.16                | 30.79                   | 123.52              | 182.81             | 1643.78                   | 0.00                       | 974.24            | 512.68                       | 0.126 | 0.23              | 0.15            | 4.234     | A   |
| 4   | 1514.78               | 378.70                  | 1537.07             | 1436.10            | 331.20                    | 0.00                       | 2107.99           | 1869.53                      | 0.719 | 8.19              | 2.61            | 6.540     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 483.33                | 120.83                  | 486.80              | 263.27             | 1286.65                   | 0.00                       | 1066.08           | 664.64                       | 0.453 | 1.71              | 0.84            | 6.250     | A   |
| 2   | 1397.29               | 349.32                  | 1399.79             | 1651.47            | 121.97                    | 0.00                       | 2658.05           | 2626.08                      | 0.526 | 1.74              | 1.12            | 2.868     | A   |
| 3   | 103.14                | 25.79                   | 103.31              | 151.74             | 1370.02                   | 0.00                       | 1116.27           | 512.68                       | 0.092 | 0.15              | 0.10            | 3.553     | A   |
| 4   | 1268.56               | 317.14                  | 1273.14             | 1196.56            | 276.78                    | 0.00                       | 2141.23           | 1869.53                      | 0.592 | 2.61              | 1.47            | 4.168     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 11.69                          | 0.78                                 | 6.055                                  | A                             | A                           |
| 2   | 16.08                          | 1.07                                 | 2.834                                  | A                             | A                           |
| 3   | 1.49                           | 0.10                                 | 3.536                                  | A                             | A                           |
| 4   | 20.75                          | 1.38                                 | 4.069                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 21.94                          | 1.46                                 | 9.765                                  | A                             | A                           |
| 2   | 24.69                          | 1.65                                 | 3.675                                  | A                             | A                           |
| 3   | 2.11                           | 0.14                                 | 4.192                                  | A                             | A                           |
| 4   | 35.59                          | 2.37                                 | 5.971                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 86.31                          | 5.75                                 | 35.658                                 | E                             | D                           |
| 2   | 48.21                          | 3.21                                 | 6.054                                  | A                             | A                           |
| 3   | 3.41                           | 0.23                                 | 5.585                                  | A                             | A                           |
| 4   | 97.37                          | 6.49                                 | 14.530                                 | B                             | B                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 129.88                         | 8.66                                 | 51.639                                 | F                             | D                           |
| 2   | 51.79                          | 3.45                                 | 6.214                                  | A                             | A                           |
| 3   | 3.51                           | 0.23                                 | 5.629                                  | A                             | A                           |
| 4   | 119.48                         | 7.97                                 | 16.690                                 | C                             | B                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 33.94                          | 2.26                                 | 12.392                                 | B                             | B                           |
| 2   | 27.03                          | 1.80                                 | 3.766                                  | A                             | A                           |
| 3   | 2.23                           | 0.15                                 | 4.234                                  | A                             | A                           |
| 4   | 43.48                          | 2.90                                 | 6.540                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.11                          | 0.87                                 | 6.250                                  | A                             | A                           |
| 2   | 17.11                          | 1.14                                 | 2.868                                  | A                             | A                           |
| 3   | 1.56                           | 0.10                                 | 3.553                                  | A                             | A                           |
| 4   | 22.81                          | 1.52                                 | 4.168                                  | A                             | A                           |



# **East Anglia TWO Offshore Windfarm**

Junction 13

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Newbourne road |
| -    | B   | A12 (south)    |
| -    | C   | Foxhall road   |
| -    | D   | A12 (north)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 08:00AM - 09:00AM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 73   | 33  | 200  | 306    |
| B       | 78  | 0    | 147 | 1614 | 1839   |
| C       | 83  | 201  | 0   | 208  | 492    |
| D       | 102 | 1369 | 188 | 0    | 1659   |
| Totals  | 263 | 1643 | 368 | 2022 | 4296   |

**HGVs**

| From/To | A  | B  | C  | D   | Totals |
|---------|----|----|----|-----|--------|
| A       | 0  | 10 | 1  | 13  | 24     |
| B       | 7  | 0  | 13 | 88  | 108    |
| C       | 4  | 15 | 0  | 3   | 22     |
| D       | 3  | 57 | 4  | 0   | 64     |
| Totals  | 14 | 82 | 18 | 104 | 218    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 83   | 34  | 213  | 330    |
| B       | 85  | 0    | 160 | 1702 | 1947   |
| C       | 87  | 216  | 0   | 211  | 514    |
| D       | 105 | 1426 | 192 | 0    | 1723   |
| Totals  | 277 | 1725 | 386 | 2126 | 4514   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 12.0% | 2.9% | 6.1% | 5%      |
| B       | 8.2% | 0.0%  | 8.1% | 5.2% | 5%      |
| C       | 4.6% | 6.9%  | 0.0% | 1.4% | 3%      |
| D       | 2.9% | 4.0%  | 2.1% | 0.0% | 2%      |
| Average | 4%   | 6%    | 3%   | 3%   | 4%      |

**PM Peak Traffic**  
Thursday 6th June 2018: 16:30PM - 17:30PM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 85   | 86  | 165  | 337    |
| B       | 61  | 0    | 297 | 1356 | 1714   |
| C       | 47  | 215  | 0   | 241  | 503    |
| D       | 143 | 1566 | 406 | 3    | 0      |
| Totals  | 252 | 1866 | 789 | 1765 | 4672   |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 2  | 0 | 7  | 9      |
| B       | 1 | 0  | 6 | 57 | 64     |
| C       | 1 | 3  | 0 | 3  | 7      |
| D       | 7 | 49 | 3 | 0  | 59     |
| Totals  | 9 | 54 | 9 | 67 | 139    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 87   | 86  | 172  | 346    |
| B       | 62  | 0    | 303 | 1413 | 1778   |
| C       | 48  | 218  | 0   | 244  | 510    |
| D       | 150 | 1615 | 409 | 3    | 2177   |
| Totals  | 261 | 1920 | 798 | 1832 | 4811   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 2.3% | 0.0% | 4.1% | 2%      |
| B       | 1.6% | 0.0% | 2.0% | 4.0% | 2%      |
| C       | 2.1% | 1.4% | 0.0% | 1.2% | 1%      |
| D       | 4.7% | 3.0% | 0.7% | 0.0% | 2%      |
| Average | 2%   | 2%   | 1%   | 2%   | 2%      |

**Forecast Flows (2023)**

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 77   | 35  | 212  | 324    |
| B       | 83  | 0    | 155 | 1707 | 1945   |
| C       | 88  | 213  | 0   | 220  | 520    |
| D       | 108 | 1448 | 199 | 0    | 1755   |
| Totals  | 278 | 1738 | 389 | 2139 | 4544   |

**Growth Factored HGVs**

| From/To | A  | B  | C  | D   | Totals |
|---------|----|----|----|-----|--------|
| A       | 0  | 11 | 1  | 14  | 25     |
| B       | 7  | 0  | 14 | 93  | 114    |
| C       | 4  | 16 | 0  | 3   | 23     |
| D       | 3  | 60 | 4  | 0   | 68     |
| Totals  | 15 | 87 | 19 | 110 | 231    |

**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 88   | 36  | 225  | 349    |
| B       | 90  | 0    | 169 | 1800 | 2060   |
| C       | 92  | 228  | 0   | 223  | 544    |
| D       | 111 | 1508 | 203 | 0    | 1823   |
| Totals  | 293 | 1825 | 408 | 2249 | 4775   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 12.0% | 2.9% | 6.1% | 5%      |
| B       | 8.2% | 0.0%  | 8.1% | 5.2% | 5%      |
| C       | 4.6% | 6.9%  | 0.0% | 1.4% | 3%      |
| D       | 2.9% | 4.0%  | 2.1% | 0.0% | 2%      |
| Average | 4%   | 6%    | 3%   | 3%   | 4%      |

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 90   | 91  | 175  | 357    |
| B       | 65  | 0    | 314 | 1436 | 1815   |
| C       | 50  | 228  | 0   | 255  | 533    |
| D       | 151 | 1658 | 430 | 3    | 2243   |
| Totals  | 267 | 1976 | 835 | 1869 | 4947   |

**Growth Factored HGVs**

| From/To | A  | B  | C  | D  | Totals |
|---------|----|----|----|----|--------|
| A       | 0  | 2  | 0  | 7  | 10     |
| B       | 1  | 0  | 6  | 60 | 68     |
| C       | 1  | 3  | 0  | 3  | 7      |
| D       | 7  | 52 | 3  | 0  | 62     |
| Totals  | 10 | 57 | 10 | 71 | 147    |

**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 92   | 91  | 182  | 366    |
| B       | 66  | 0    | 321 | 1496 | 1883   |
| C       | 51  | 231  | 0   | 258  | 540    |
| D       | 159 | 1710 | 433 | 3    | 2305   |
| Totals  | 276 | 2033 | 845 | 1940 | 5094   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 2.3% | 0.0% | 4.1% | 2%      |
| B       | 1.6% | 0.0% | 2.0% | 4.0% | 2%      |
| C       | 2.1% | 1.4% | 0.0% | 1.2% | 1%      |
| D       | 4.7% | 3.0% | 0.7% | 0.0% | 2%      |
| Average | 2%   | 2%   | 1%   | 2%   | 2%      |

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Newbourne road |
| -    | B   | A12 (south)    |
| -    | C   | Foxhall road   |
| -    | D   | A12 (north)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A | B | C | D  | Totals |
|---------|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 20 | 20     |
| C       | 0 | 0 | 0 | 10 | 10     |
| D       | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 31 | 31     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 31 | 31     |
| C       | 0 | 0  | 0 | 10 | 10     |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 41 | 52     |

**%HGV**

| From/To | A    | B      | C    | D     | Average |
|---------|------|--------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 34.0% | 8%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 8%    | 8%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A | B  | C  | D | Totals |
|---------|---|----|----|---|--------|
| A       | 0 | 0  | 0  | 0 | 0      |
| B       | 0 | 0  | 0  | 0 | 0      |
| C       | 0 | 0  | 0  | 0 | 0      |
| D       | 0 | 20 | 10 | 0 | 31     |
| Totals  | 0 | 20 | 10 | 0 | 31     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 11 | 11     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 11 | 0 | 0  | 11     |
| Totals  | 0 | 11 | 0 | 11 | 21     |

**Total**

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 0  | 0  | 0  | 0      |
| B       | 0 | 0  | 0  | 11 | 11     |
| C       | 0 | 0  | 0  | 0  | 0      |
| D       | 0 | 31 | 10 | 0  | 41     |
| Totals  | 0 | 31 | 10 | 11 | 52     |

**%HGV**

| From/To | A    | B     | C    | D      | Average |
|---------|------|-------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 34.0% | 0.0% | 0.0%   | 8%      |
| Average | 0%   | 8%    | 0%   | 25%    | 8%      |

**Forecast Flows + EA2 Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 77   | 35  | 212  | 324    |
| B       | 83  | 0    | 155 | 1728 | 1966   |
| C       | 88  | 213  | 0   | 230  | 531    |
| D       | 108 | 1448 | 199 | 0    | 1755   |
| Totals  | 278 | 1738 | 389 | 2170 | 4575   |

**HGVs**

| From/To | A  | B  | C  | D   | Totals |
|---------|----|----|----|-----|--------|
| A       | 0  | 11 | 1  | 14  | 25     |
| B       | 7  | 0  | 14 | 104 | 125    |
| C       | 4  | 16 | 0  | 3   | 23     |
| D       | 3  | 71 | 4  | 0   | 78     |
| Totals  | 15 | 97 | 19 | 121 | 252    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 88   | 36  | 226  | 349    |
| B       | 90  | 0    | 169 | 1831 | 2090   |
| C       | 92  | 228  | 0   | 233  | 554    |
| D       | 111 | 1519 | 203 | 0    | 1833   |
| Totals  | 293 | 1835 | 408 | 2290 | 4827   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 12.0% | 2.9% | 6.1% | 5%      |
| B       | 8.2% | 0.0%  | 8.1% | 5.7% | 6%      |
| C       | 4.6% | 6.9%  | 0.0% | 1.4% | 3%      |
| D       | 2.9% | 4.7%  | 2.1% | 0.0% | 2%      |
| Average | 4%   | 6%    | 3%   | 3%   | 4%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 90   | 91  | 175  | 357    |
| B       | 65  | 0    | 314 | 1436 | 1815   |
| C       | 50  | 228  | 0   | 255  | 533    |
| D       | 152 | 1678 | 440 | 3    | 2273   |
| Totals  | 267 | 1996 | 846 | 1869 | 4978   |

**HGVs**

| From/To | A  | B  | C  | D  | Totals |
|---------|----|----|----|----|--------|
| A       | 0  | 2  | 0  | 7  | 10     |
| B       | 1  | 0  | 6  | 71 | 78     |
| C       | 1  | 3  | 0  | 3  | 7      |
| D       | 7  | 62 | 3  | 0  | 73     |
| Totals  | 10 | 68 | 10 | 81 | 168    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 92   | 91  | 182  | 366    |
| B       | 66  | 0    | 321 | 1507 | 1893   |
| C       | 51  | 231  | 0   | 258  | 540    |
| D       | 159 | 1741 | 443 | 3    | 2346   |
| Totals  | 277 | 2064 | 855 | 1950 | 5146   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 2.3% | 0.0% | 4.1% | 2%      |
| B       | 1.6% | 0.0% | 2.0% | 4.7% | 2%      |
| C       | 2.1% | 1.4% | 0.0% | 1.2% | 1%      |
| D       | 4.7% | 3.6% | 0.7% | 0.0% | 2%      |
| Average | 2%   | 2%   | 1%   | 3%   | 2%      |

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Newbourne road |
| -    | B   | A12 (south)    |
| -    | C   | Foxhall road   |
| -    | D   | A12 (north)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**Surveyed Flows (2019)**

**AM Peak Traffic**  
Wednesday 5th June 2019: 08:00AM - 09:00AM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 73   | 33  | 200  | 306    |
| B       | 78  | 0    | 147 | 1614 | 1839   |
| C       | 83  | 201  | 0   | 208  | 492    |
| D       | 102 | 1369 | 188 | 0    | 1659   |
| Totals  | 263 | 1643 | 368 | 2022 | 4296   |

**HGVs**

| From/To | A  | B  | C  | D   | Totals |
|---------|----|----|----|-----|--------|
| A       | 0  | 10 | 1  | 13  | 24     |
| B       | 7  | 0  | 13 | 88  | 108    |
| C       | 4  | 15 | 0  | 3   | 22     |
| D       | 3  | 57 | 4  | 0   | 64     |
| Totals  | 14 | 82 | 18 | 104 | 218    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 83   | 34  | 213  | 330    |
| B       | 85  | 0    | 160 | 1702 | 1947   |
| C       | 87  | 216  | 0   | 211  | 514    |
| D       | 105 | 1426 | 192 | 0    | 1723   |
| Totals  | 277 | 1725 | 386 | 2126 | 4514   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 12.0% | 2.9% | 6.1% | 5%      |
| B       | 8.2% | 0.0%  | 8.1% | 5.2% | 5%      |
| C       | 4.6% | 6.9%  | 0.0% | 1.4% | 3%      |
| D       | 2.9% | 4.0%  | 2.1% | 0.0% | 2%      |
| Average | 4%   | 6%    | 3%   | 3%   | 4%      |

**PM Peak Traffic**  
Thursday 6th June 2018: 16:30PM - 17:30PM

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 85   | 86  | 165  | 337    |
| B       | 61  | 0    | 297 | 1356 | 1714   |
| C       | 47  | 215  | 0   | 241  | 503    |
| D       | 143 | 1566 | 406 | 3    | 0      |
| Totals  | 252 | 1866 | 789 | 1765 | 4672   |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 2  | 0 | 7  | 9      |
| B       | 1 | 0  | 6 | 57 | 64     |
| C       | 1 | 3  | 0 | 3  | 7      |
| D       | 7 | 49 | 3 | 0  | 59     |
| Totals  | 9 | 54 | 9 | 67 | 139    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 87   | 86  | 172  | 346    |
| B       | 62  | 0    | 303 | 1413 | 1778   |
| C       | 48  | 218  | 0   | 244  | 510    |
| D       | 150 | 1615 | 409 | 3    | 2177   |
| Totals  | 261 | 1920 | 798 | 1832 | 4811   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 2.3% | 0.0% | 4.1% | 2%      |
| B       | 1.6% | 0.0% | 2.0% | 4.0% | 2%      |
| C       | 2.1% | 1.4% | 0.0% | 1.2% | 1%      |
| D       | 4.7% | 3.0% | 0.7% | 0.0% | 2%      |
| Average | 2%   | 2%   | 1%   | 2%   | 2%      |

**Forecast Flows (2023)**

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 77   | 35  | 212  | 324    |
| B       | 83  | 0    | 155 | 1707 | 1945   |
| C       | 88  | 213  | 0   | 220  | 520    |
| D       | 108 | 1448 | 199 | 0    | 1755   |
| Totals  | 278 | 1738 | 389 | 2139 | 4544   |

**Growth Factored HGVs**

| From/To | A  | B  | C  | D   | Totals |
|---------|----|----|----|-----|--------|
| A       | 0  | 11 | 1  | 14  | 25     |
| B       | 7  | 0  | 14 | 93  | 114    |
| C       | 4  | 16 | 0  | 3   | 23     |
| D       | 3  | 60 | 4  | 0   | 68     |
| Totals  | 15 | 87 | 19 | 110 | 231    |

**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 88   | 36  | 225  | 349    |
| B       | 90  | 0    | 169 | 1800 | 2060   |
| C       | 92  | 228  | 0   | 223  | 544    |
| D       | 111 | 1508 | 203 | 0    | 1823   |
| Totals  | 293 | 1825 | 408 | 2249 | 4775   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 12.0% | 2.9% | 6.1% | 5%      |
| B       | 8.2% | 0.0%  | 8.1% | 5.2% | 5%      |
| C       | 4.6% | 6.9%  | 0.0% | 1.4% | 3%      |
| D       | 2.9% | 4.0%  | 2.1% | 0.0% | 2%      |
| Average | 4%   | 6%    | 3%   | 3%   | 4%      |

**Growth Factored Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 90   | 91  | 175  | 357    |
| B       | 65  | 0    | 314 | 1436 | 1815   |
| C       | 50  | 228  | 0   | 255  | 533    |
| D       | 151 | 1658 | 430 | 3    | 2243   |
| Totals  | 267 | 1976 | 835 | 1869 | 4947   |

**Growth Factored HGVs**

| From/To | A  | B  | C  | D  | Totals |
|---------|----|----|----|----|--------|
| A       | 0  | 2  | 0  | 7  | 10     |
| B       | 1  | 0  | 6  | 60 | 68     |
| C       | 1  | 3  | 0  | 3  | 7      |
| D       | 7  | 52 | 3  | 0  | 62     |
| Totals  | 10 | 57 | 10 | 71 | 147    |

**Growth Factored Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 92   | 91  | 182  | 366    |
| B       | 66  | 0    | 321 | 1496 | 1883   |
| C       | 51  | 231  | 0   | 258  | 540    |
| D       | 159 | 1710 | 433 | 3    | 2305   |
| Totals  | 276 | 2033 | 845 | 1940 | 5094   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 2.3% | 0.0% | 4.1% | 2%      |
| B       | 1.6% | 0.0% | 2.0% | 4.0% | 2%      |
| C       | 2.1% | 1.4% | 0.0% | 1.2% | 1%      |
| D       | 4.7% | 3.0% | 0.7% | 0.0% | 2%      |
| Average | 2%   | 2%   | 1%   | 2%   | 2%      |

**Junction 13 - A12 / Foxhall Road / Newbourne Road**



**Notes**

| Link | Arm | Road Name      |
|------|-----|----------------|
| -    | A   | Newbourne road |
| -    | B   | A12 (south)    |
| -    | C   | Foxhall road   |
| -    | D   | A12 (north)    |

| Growth Factor | AM     | PM     |
|---------------|--------|--------|
| All Vehicles  | 1.0578 | 1.0588 |

**EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A | B | C | D  | Totals |
|---------|---|---|---|----|--------|
| A       | 0 | 0 | 0 | 0  | 0      |
| B       | 0 | 0 | 0 | 25 | 25     |
| C       | 0 | 0 | 0 | 13 | 13     |
| D       | 0 | 0 | 0 | 0  | 0      |
| Totals  | 0 | 0 | 0 | 38 | 38     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

**Total**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 39 | 39     |
| C       | 0 | 0  | 0 | 13 | 13     |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 52 | 65     |

**%HGV**

| From/To | A    | B      | C    | D     | Average |
|---------|------|--------|------|-------|---------|
| A       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| B       | 0.0% | 0.0%   | 0.0% | 34.8% | 9%      |
| C       | 0.0% | 0.0%   | 0.0% | 0.0%  | 0%      |
| D       | 0.0% | 100.0% | 0.0% | 0.0%  | 25%     |
| Average | 0%   | 25%    | 0%   | 9%    | 8%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A | B  | C  | D | Totals |
|---------|---|----|----|---|--------|
| A       | 0 | 0  | 0  | 0 | 0      |
| B       | 0 | 0  | 0  | 0 | 0      |
| C       | 0 | 0  | 0  | 0 | 0      |
| D       | 0 | 25 | 13 | 0 | 38     |
| Totals  | 0 | 25 | 13 | 0 | 38     |

**HGVs**

| From/To | A | B  | C | D  | Totals |
|---------|---|----|---|----|--------|
| A       | 0 | 0  | 0 | 0  | 0      |
| B       | 0 | 0  | 0 | 14 | 14     |
| C       | 0 | 0  | 0 | 0  | 0      |
| D       | 0 | 14 | 0 | 0  | 14     |
| Totals  | 0 | 14 | 0 | 14 | 27     |

**Total**

| From/To | A | B  | C  | D  | Totals |
|---------|---|----|----|----|--------|
| A       | 0 | 0  | 0  | 0  | 0      |
| B       | 0 | 0  | 0  | 14 | 14     |
| C       | 0 | 0  | 0  | 0  | 0      |
| D       | 0 | 39 | 13 | 0  | 52     |
| Totals  | 0 | 39 | 13 | 14 | 65     |

**%HGV**

| From/To | A    | B     | C    | D      | Average |
|---------|------|-------|------|--------|---------|
| A       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| B       | 0.0% | 0.0%  | 0.0% | 100.0% | 25%     |
| C       | 0.0% | 0.0%  | 0.0% | 0.0%   | 0%      |
| D       | 0.0% | 34.8% | 0.0% | 0.0%   | 9%      |
| Average | 0%   | 9%    | 0%   | 25%    | 8%      |

**Forecast Flows + EA2 + EA1N Construction Traffic Traffic (2023)**

**AM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 77   | 35  | 212  | 324    |
| B       | 83  | 0    | 155 | 1733 | 1971   |
| C       | 88  | 213  | 0   | 233  | 533    |
| D       | 108 | 1448 | 199 | 0    | 1755   |
| Totals  | 278 | 1738 | 389 | 2177 | 4583   |

**HGVs**

| From/To | A  | B   | C  | D   | Totals |
|---------|----|-----|----|-----|--------|
| A       | 0  | 11  | 1  | 14  | 25     |
| B       | 7  | 0   | 14 | 107 | 128    |
| C       | 4  | 16  | 0  | 3   | 23     |
| D       | 3  | 74  | 4  | 0   | 81     |
| Totals  | 15 | 100 | 19 | 124 | 258    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 0   | 88   | 36  | 226  | 349    |
| B       | 90  | 0    | 169 | 1839 | 2098   |
| C       | 92  | 228  | 0   | 236  | 556    |
| D       | 111 | 1522 | 203 | 0    | 1836   |
| Totals  | 293 | 1838 | 408 | 2301 | 4840   |

**%HGV**

| From/To | A    | B     | C    | D    | Average |
|---------|------|-------|------|------|---------|
| A       | 0.0% | 12.0% | 2.9% | 6.1% | 5%      |
| B       | 8.2% | 0.0%  | 8.1% | 5.8% | 6%      |
| C       | 4.6% | 6.9%  | 0.0% | 1.3% | 3%      |
| D       | 2.9% | 4.8%  | 2.1% | 0.0% | 2%      |
| Average | 4%   | 6%    | 3%   | 3%   | 4%      |

**PM Peak Traffic**

**Vehicles**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 90   | 91  | 175  | 357    |
| B       | 65  | 0    | 314 | 1436 | 1815   |
| C       | 50  | 228  | 0   | 255  | 533    |
| D       | 152 | 1683 | 442 | 3    | 2281   |
| Totals  | 267 | 2001 | 848 | 1869 | 4965   |

**HGVs**

| From/To | A  | B  | C  | D  | Totals |
|---------|----|----|----|----|--------|
| A       | 0  | 2  | 0  | 7  | 10     |
| B       | 1  | 0  | 6  | 74 | 81     |
| C       | 1  | 3  | 0  | 3  | 7      |
| D       | 7  | 65 | 3  | 0  | 76     |
| Totals  | 10 | 71 | 10 | 84 | 174    |

**Total**

| From/To | A   | B    | C   | D    | Totals |
|---------|-----|------|-----|------|--------|
| A       | 1   | 92   | 91  | 182  | 366    |
| B       | 66  | 0    | 321 | 1510 | 1896   |
| C       | 51  | 231  | 0   | 258  | 540    |
| D       | 159 | 1749 | 446 | 3    | 2357   |
| Totals  | 277 | 2072 | 857 | 1953 | 5159   |

**%HGV**

| From/To | A    | B    | C    | D    | Average |
|---------|------|------|------|------|---------|
| A       | 0.0% | 2.3% | 0.0% | 4.1% | 2%      |
| B       | 1.6% | 0.0% | 2.0% | 4.9% | 2%      |
| C       | 2.1% | 1.4% | 0.0% | 1.2% | 1%      |
| D       | 4.7% | 3.7% | 0.7% | 0.0% | 2%      |
| Average | 2%   | 2%   | 1%   | 3%   | 2%      |

| Junctions 8                                                                                                                                                                 |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| ARCADY 8 - Roundabout Module                                                                                                                                                |  |
| Version: 8.0.6.541 [19821,26/11/2015]<br>© Copyright TRL Limited, 2019                                                                                                      |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution            |  |

**Filename:** Junction 13 - A12 and Foxhall Road and Newbourne Road.arc8

**Path:** C:\Users\304111\Box\PB4842 EA 1N and 2\PB4842 EA 1N and 2 Team\E. TECHNICAL DATA\E01 East Anglia ONE North & TWO\01 Technical Reports\13 Transport\TD\Calcs\Junctions

**Report generation date:** 22/07/2019 14:49:56

- 
- » Existing Layout - Forecast Background 2023, AM
  - » Existing Layout - Forecast Background 2023, PM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 Construction 2023, PM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM
  - » Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM
  - » Existing Layout - Background 2019, AM
  - » Existing Layout - Background 2019, PM

## Summary of junction performance

|                                                                      | AM          |           |      |     | PM          |           |      |     |
|----------------------------------------------------------------------|-------------|-----------|------|-----|-------------|-----------|------|-----|
|                                                                      | Queue (Veh) | Delay (s) | RFC  | LOS | Queue (Veh) | Delay (s) | RFC  | LOS |
| Existing Layout - Background 2019                                    |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.73        | 7.26      | 0.42 | A   | 1.33        | 12.81     | 0.58 | B   |
| Arm 2                                                                | 3.17        | 5.38      | 0.76 | A   | 2.65        | 4.92      | 0.73 | A   |
| Arm 3                                                                | 14.45       | 93.32     | 0.99 | F   | 2.22        | 14.55     | 0.70 | B   |
| Arm 4                                                                | 2.91        | 5.60      | 0.75 | A   | 9.91        | 15.68     | 0.92 | C   |
| Existing Layout - Forecast Background + EA2 + EA1N Construction 2023 |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.90        | 8.50      | 0.48 | A   | 2.31        | 21.53     | 0.71 | C   |
| Arm 2                                                                | 4.69        | 7.50      | 0.83 | A   | 3.68        | 6.46      | 0.79 | A   |
| Arm 3                                                                | 65.23       | 349.57    | 1.25 | F   | 3.81        | 24.17     | 0.80 | C   |
| Arm 4                                                                | 3.72        | 6.74      | 0.79 | A   | 33.49       | 46.60     | 1.00 | E   |
| Existing Layout - Forecast Background + EA2 Construction 2023        |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.88        | 8.37      | 0.47 | A   | 2.07        | 19.17     | 0.68 | C   |
| Arm 2                                                                | 4.23        | 6.84      | 0.81 | A   | 3.47        | 6.12      | 0.78 | A   |
| Arm 3                                                                | 49.56       | 267.61    | 1.18 | F   | 3.55        | 22.42     | 0.79 | C   |
| Arm 4                                                                | 3.60        | 6.57      | 0.79 | A   | 22.68       | 33.64     | 0.98 | D   |
| Existing Layout - Forecast Background 2023                           |             |           |      |     |             |           |      |     |
| Arm 1                                                                | 0.73        | 7.41      | 0.42 | A   | 1.69        | 15.94     | 0.64 | C   |
| Arm 2                                                                | 3.21        | 5.45      | 0.77 | A   | 2.97        | 5.40      | 0.75 | A   |
| Arm 3                                                                | 17.14       | 106.66    | 1.01 | F   | 2.77        | 17.54     | 0.74 | C   |
| Arm 4                                                                | 3.12        | 5.89      | 0.76 | A   | 14.87       | 23.05     | 0.95 | C   |

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Forecast Background 2023, AM" model duration: 08:00 - 09:30

"D2 - Forecast Background 2023, PM" model duration: 16:45 - 18:15

"D3 - Forecast Background + EA2 Construction 2023, AM" model duration: 08:00 - 09:30

"D4 - Forecast Background + EA2 Construction 2023, PM" model duration: 16:45 - 18:15

"D5 - Forecast Background + EA2 + EA1N Construction 2023, AM" model duration: 08:00 - 09:30

"D6 - Forecast Background + EA2 + EA1N Construction 2023, PM" model duration: 16:45 - 18:15

"D7 - Background 2019, AM" model duration: 08:00 - 09:30

"D8 - Background 2019, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.6.541 at 22/07/2019 14:49:49

## File summary

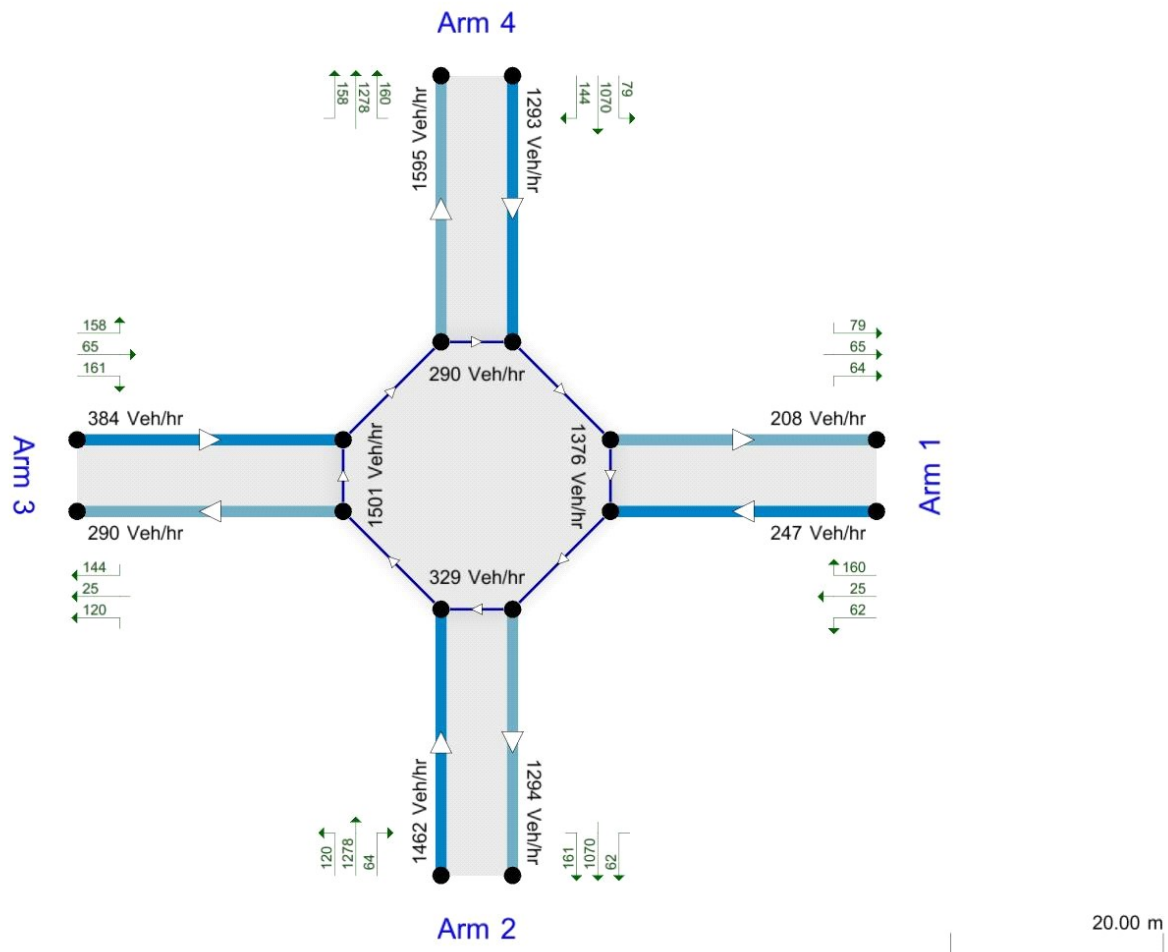
|             |                                                              |
|-------------|--------------------------------------------------------------|
| Title       | East Anglia TWO Offshore Windfarm                            |
| Location    | Roundabout junction of the A12, Foxhall Road, Newbourne Road |
| Site Number | J13                                                          |
| Date        | 25/06/2019                                                   |
| Version     | D0.1                                                         |
| Status      | Existing Layout                                              |
| Identifier  |                                                              |
| Client      | Scottish Power                                               |
| Jobnumber   | PB4842                                                       |
| Enumerator  | 304111                                                       |
| Description |                                                              |

## Analysis Options

| Vehicle Length (m) | Do Queue Variations | Calculate Residual Capacity | Residual Capacity Criteria Type | RFC Threshold | Average Delay Threshold (s) | Queue Threshold (PCU) |
|--------------------|---------------------|-----------------------------|---------------------------------|---------------|-----------------------------|-----------------------|
| 5.75               |                     |                             | N/A                             | 0.85          | 36.00                       | 20.00                 |

## Units

| Distance Units | Speed Units | Traffic Units Input | Traffic Units Results | Flow Units | Average Delay Units | Total Delay Units | Rate Of Delay Units |
|----------------|-------------|---------------------|-----------------------|------------|---------------------|-------------------|---------------------|
| m              | kph         | Veh                 | Veh                   | perHour    | s                   | -Min              | perMin              |



Showing modelled flow through junction (Veh/hr).  
Time Segment: (08:00-08:15)  
Showing Analysis Set "A1 - Existing Layout "; Demand Set "D1 - Forecast Background 2023, AM "

The junction diagram reflects the last run of ARCADY.

## Existing Layout - Forecast Background 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |



## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, AM | Forecast Background 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 17.28              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 325.62                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1950.54                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 521.16                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1756.70                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 245.14                            | 262.75                              |                                  |                                        |
| 08:00-08:15  | 2   | 1468.47                           | 1550.12                             |                                  |                                        |
| 08:00-08:15  | 3   | 392.36                            | 408.80                              |                                  |                                        |
| 08:00-08:15  | 4   | 1322.53                           | 1371.70                             |                                  |                                        |
| 08:15-08:30  | 1   | 292.73                            | 313.74                              |                                  |                                        |
| 08:15-08:30  | 2   | 1753.50                           | 1851.00                             |                                  |                                        |
| 08:15-08:30  | 3   | 468.51                            | 488.15                              |                                  |                                        |
| 08:15-08:30  | 4   | 1579.23                           | 1637.94                             |                                  |                                        |
| 08:30-08:45  | 1   | 358.52                            | 384.26                              |                                  |                                        |
| 08:30-08:45  | 2   | 2147.59                           | 2267.00                             |                                  |                                        |
| 08:30-08:45  | 3   | 573.81                            | 597.85                              |                                  |                                        |
| 08:30-08:45  | 4   | 1934.16                           | 2006.06                             |                                  |                                        |
| 08:45-09:00  | 1   | 358.52                            | 384.26                              |                                  |                                        |
| 08:45-09:00  | 2   | 2147.59                           | 2267.00                             |                                  |                                        |
| 08:45-09:00  | 3   | 573.81                            | 597.85                              |                                  |                                        |
| 08:45-09:00  | 4   | 1934.16                           | 2006.06                             |                                  |                                        |
| 09:00-09:15  | 1   | 292.73                            | 313.74                              |                                  |                                        |
| 09:00-09:15  | 2   | 1753.50                           | 1851.00                             |                                  |                                        |
| 09:00-09:15  | 3   | 468.51                            | 488.15                              |                                  |                                        |
| 09:00-09:15  | 4   | 1579.23                           | 1637.94                             |                                  |                                        |
| 09:15-09:30  | 1   | 245.14                            | 262.75                              |                                  |                                        |
| 09:15-09:30  | 2   | 1468.47                           | 1550.12                             |                                  |                                        |
| 09:15-09:30  | 3   | 392.36                            | 408.80                              |                                  |                                        |
| 09:15-09:30  | 4   | 1322.53                           | 1371.70                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
|      |    | 1       | 2        | 3       | 4        |
| From | 1  | 0.000   | 78.571   | 34.985  | 212.064  |
|      | 2  | 83.179  | 0.000    | 156.337 | 1711.027 |
|      | 3  | 87.954  | 213.283  | 0.000   | 219.921  |
|      | 4  | 107.872 | 1450.000 | 198.825 | 0.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
|      |    | 1    | 2    | 3    | 4    |
| From | 1  | 0.00 | 0.24 | 0.11 | 0.65 |
|      | 2  | 0.04 | 0.00 | 0.08 | 0.88 |
|      | 3  | 0.17 | 0.41 | 0.00 | 0.42 |
|      | 4  | 0.06 | 0.83 | 0.11 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.120 | 1.029 | 1.061 |
|      | 2  | 1.082 | 1.000 | 1.081 | 1.052 |
|      | 3  | 1.046 | 1.069 | 1.000 | 1.014 |
|      | 4  | 1.029 | 1.040 | 1.021 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      | To |     |      |     |     |
|------|----|-----|------|-----|-----|
|      |    | 1   | 2    | 3   | 4   |
| From | 1  | 0.0 | 12.0 | 2.9 | 6.1 |
|      | 2  | 8.2 | 0.0  | 8.1 | 5.2 |
|      | 3  | 4.6 | 6.9  | 0.0 | 1.4 |
|      | 4  | 2.9 | 4.0  | 2.1 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.42    | 7.41          | 0.73            | A       | 298.80                  | 448.19                        | 40.88                          | 5.47                       | 0.45                                 | 40.88                                    | 5.47                                 |
| 2   | 0.77    | 5.45          | 3.21            | A       | 1789.86                 | 2684.79                       | 170.50                         | 3.81                       | 1.89                                 | 170.51                                   | 3.81                                 |
| 3   | 1.01    | 106.66        | 17.14           | F       | 478.22                  | 717.34                        | 429.55                         | 35.93                      | 4.77                                 | 429.57                                   | 35.93                                |
| 4   | 0.76    | 5.89          | 3.12            | A       | 1611.98                 | 2417.97                       | 167.76                         | 4.16                       | 1.86                                 | 167.77                                   | 4.16                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 245.14                | 61.29                   | 244.12              | 209.15             | 1396.95                   | 0.00                       | 1195.06           | 547.29                       | 0.205 | 0.00              | 0.26            | 3.782     | A   |
| 2   | 1468.48               | 367.12                  | 1464.46             | 1306.63            | 334.44                    | 0.00                       | 2921.92           | 2642.17                      | 0.503 | 0.00              | 1.00            | 2.462     | A   |
| 3   | 392.36                | 98.09                   | 389.49              | 292.83             | 1506.07                   | 0.00                       | 933.70            | 271.01                       | 0.420 | 0.00              | 0.72            | 6.581     | A   |
| 4   | 1322.54               | 330.63                  | 1318.52             | 1607.96            | 287.58                    | 0.00                       | 2630.84           | 2643.00                      | 0.503 | 0.00              | 1.00            | 2.736     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 292.73                | 73.18                   | 292.21              | 250.09             | 1670.75                   | 0.00                       | 1045.90           | 547.29                       | 0.280 | 0.26              | 0.39            | 4.773     | A   |
| 2   | 1753.50               | 438.38                  | 1751.32             | 1562.77            | 400.19                    | 0.00                       | 2873.58           | 2642.17                      | 0.610 | 1.00              | 1.55            | 3.200     | A   |
| 3   | 468.51                | 117.13                  | 465.56              | 350.26             | 1801.26                   | 0.00                       | 781.02            | 271.01                       | 0.600 | 0.72              | 1.45            | 11.307    | B   |
| 4   | 1579.24               | 394.81                  | 1577.08             | 1923.02            | 343.78                    | 0.00                       | 2591.25           | 2643.00                      | 0.609 | 1.00              | 1.55            | 3.542     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 358.51                | 89.63                   | 357.19              | 299.66             | 2027.88                   | 0.00                       | 851.58            | 547.29                       | 0.421 | 0.39              | 0.72            | 7.263     | A   |
| 2   | 2147.59               | 536.90                  | 2141.11             | 1895.84            | 489.23                    | 0.00                       | 2808.14           | 2642.17                      | 0.765 | 1.55              | 3.17            | 5.345     | A   |
| 3   | 573.81                | 143.45                  | 533.02              | 428.22             | 2202.13                   | 0.00                       | 573.67            | 271.01                       | 1.000 | 1.45              | 11.65           | 61.477    | F   |
| 4   | 1934.17               | 483.54                  | 1928.14             | 2335.73            | 399.40                    | 0.00                       | 2552.01           | 2643.00                      | 0.758 | 1.55              | 3.05            | 5.716     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 358.51                | 89.63                   | 358.46              | 303.46             | 2040.98                   | 0.00                       | 844.34            | 547.29                       | 0.425 | 0.72              | 0.73            | 7.409     | A   |
| 2   | 2147.59               | 536.90                  | 2147.42             | 1908.59            | 490.84                    | 0.00                       | 2806.95           | 2642.17                      | 0.765 | 3.17              | 3.21            | 5.455     | A   |
| 3   | 573.81                | 143.45                  | 551.86              | 429.51             | 2208.74                   | 0.00                       | 570.24            | 271.01                       | 1.006 | 11.65             | 17.14           | 106.659   | F   |
| 4   | 1934.17               | 483.54                  | 1933.89             | 2350.05            | 410.56                    | 0.00                       | 2544.18           | 2643.00                      | 0.760 | 3.05              | 3.12            | 5.893     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 292.73                | 73.18                   | 294.04              | 261.97             | 1705.11                   | 0.00                       | 1026.83           | 547.29                       | 0.285 | 0.73              | 0.40            | 4.922     | A   |
| 2   | 1753.50               | 438.38                  | 1760.03             | 1596.63            | 402.51                    | 0.00                       | 2871.88           | 2642.17                      | 0.611 | 3.21              | 1.58            | 3.258     | A   |
| 3   | 468.51                | 117.13                  | 530.73              | 352.08             | 1810.45                   | 0.00                       | 776.25            | 271.01                       | 0.604 | 17.14             | 1.58            | 18.504    | C   |
| 4   | 1579.24               | 394.81                  | 1585.24             | 1959.36            | 381.83                    | 0.00                       | 2564.55           | 2643.00                      | 0.616 | 3.12              | 1.62            | 3.697     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 245.14                | 61.29                   | 245.71              | 210.86             | 1405.53                   | 0.00                       | 1190.36           | 547.29                       | 0.206 | 0.40              | 0.26            | 3.812     | A   |
| 2   | 1468.48               | 367.12                  | 1470.74             | 1314.86            | 336.38                    | 0.00                       | 2920.49           | 2642.17                      | 0.503 | 1.58              | 1.02            | 2.486     | A   |
| 3   | 392.36                | 98.09                   | 395.73              | 294.24             | 1512.87                   | 0.00                       | 930.17            | 271.01                       | 0.422 | 1.58              | 0.74            | 6.776     | A   |
| 4   | 1322.54               | 330.63                  | 1324.94             | 1617.14            | 291.45                    | 0.00                       | 2628.12           | 2643.00                      | 0.503 | 1.62              | 1.02            | 2.769     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.77                           | 0.25                                 | 3.782                                  | A                             | A                           |
| 2   | 14.74                          | 0.98                                 | 2.462                                  | A                             | A                           |
| 3   | 10.29                          | 0.69                                 | 6.581                                  | A                             | A                           |
| 4   | 14.71                          | 0.98                                 | 2.736                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.66                           | 0.38                                 | 4.773                                  | A                             | A                           |
| 2   | 22.70                          | 1.51                                 | 3.200                                  | A                             | A                           |
| 3   | 20.49                          | 1.37                                 | 11.307                                 | B                             | B                           |
| 4   | 22.57                          | 1.50                                 | 3.542                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.37                          | 0.69                                 | 7.263                                  | A                             | A                           |
| 2   | 45.05                          | 3.00                                 | 5.345                                  | A                             | A                           |
| 3   | 116.69                         | 7.78                                 | 61.477                                 | F                             | E                           |
| 4   | 43.31                          | 2.89                                 | 5.716                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.90                          | 0.73                                 | 7.409                                  | A                             | A                           |
| 2   | 47.98                          | 3.20                                 | 5.455                                  | A                             | A                           |
| 3   | 218.13                         | 14.54                                | 106.659                                | F                             | F                           |
| 4   | 46.44                          | 3.10                                 | 5.893                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.19                           | 0.41                                 | 4.922                                  | A                             | A                           |
| 2   | 24.49                          | 1.63                                 | 3.258                                  | A                             | A                           |
| 3   | 52.39                          | 3.49                                 | 18.504                                 | C                             | B                           |
| 4   | 25.12                          | 1.67                                 | 3.697                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.99                           | 0.27                                 | 3.812                                  | A                             | A                           |
| 2   | 15.55                          | 1.04                                 | 2.486                                  | A                             | A                           |
| 3   | 11.56                          | 0.77                                 | 6.776                                  | A                             | A                           |
| 4   | 15.62                          | 1.04                                 | 2.769                                  | A                             | A                           |

## Existing Layout - Forecast Background 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                         | Scenario Name            | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|------------------------------|--------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Forecast Background 2023, PM | Forecast Background 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

## Junction Network

### Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 15.43              | C            |

### Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

### Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 356.76                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1818.13                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 532.70                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2245.05                      | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 268.59                            | 275.54                              |                                  |                                        |
| 16:45-17:00  | 2   | 1368.78                           | 1417.62                             |                                  |                                        |
| 16:45-17:00  | 3   | 401.05                            | 406.54                              |                                  |                                        |
| 16:45-17:00  | 4   | 1690.19                           | 1735.32                             |                                  |                                        |
| 17:00-17:15  | 1   | 320.72                            | 329.03                              |                                  |                                        |
| 17:00-17:15  | 2   | 1634.46                           | 1692.78                             |                                  |                                        |
| 17:00-17:15  | 3   | 478.89                            | 485.45                              |                                  |                                        |
| 17:00-17:15  | 4   | 2018.25                           | 2072.15                             |                                  |                                        |
| 17:15-17:30  | 1   | 392.80                            | 402.97                              |                                  |                                        |
| 17:15-17:30  | 2   | 2001.80                           | 2073.22                             |                                  |                                        |
| 17:15-17:30  | 3   | 586.52                            | 594.55                              |                                  |                                        |
| 17:15-17:30  | 4   | 2471.84                           | 2537.85                             |                                  |                                        |
| 17:30-17:45  | 1   | 392.80                            | 402.97                              |                                  |                                        |
| 17:30-17:45  | 2   | 2001.80                           | 2073.22                             |                                  |                                        |
| 17:30-17:45  | 3   | 586.52                            | 594.55                              |                                  |                                        |
| 17:30-17:45  | 4   | 2471.84                           | 2537.85                             |                                  |                                        |
| 17:45-18:00  | 1   | 320.72                            | 329.03                              |                                  |                                        |
| 17:45-18:00  | 2   | 1634.46                           | 1692.78                             |                                  |                                        |
| 17:45-18:00  | 3   | 478.89                            | 485.45                              |                                  |                                        |
| 17:45-18:00  | 4   | 2018.25                           | 2072.15                             |                                  |                                        |
| 18:00-18:15  | 1   | 268.59                            | 275.54                              |                                  |                                        |
| 18:00-18:15  | 2   | 1368.78                           | 1417.62                             |                                  |                                        |
| 18:00-18:15  | 3   | 401.05                            | 406.54                              |                                  |                                        |
| 18:00-18:15  | 4   | 1690.19                           | 1735.32                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 1.000   | 89.932   | 91.000  | 174.832  |
|      | 2  | 64.961  | 0.000    | 314.706 | 1438.462 |
|      | 3  | 49.951  | 227.811  | 0.000   | 254.941  |
|      | 4  | 151.862 | 1660.194 | 429.990 | 3.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.25 | 0.26 | 0.49 |
|      | 2  | 0.04 | 0.00 | 0.17 | 0.79 |
|      | 3  | 0.09 | 0.43 | 0.00 | 0.48 |
|      | 4  | 0.07 | 0.74 | 0.19 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.023 | 1.000 | 1.041 |
|      | 2  | 1.016 | 1.000 | 1.020 | 1.040 |
|      | 3  | 1.021 | 1.014 | 1.000 | 1.012 |
|      | 4  | 1.047 | 1.030 | 1.007 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 2.3 | 0.0 | 4.1 |
|      | 2  | 1.6 | 0.0 | 2.0 | 4.0 |
|      | 3  | 2.1 | 1.4 | 0.0 | 1.2 |
|      | 4  | 4.7 | 3.0 | 0.7 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.64    | 15.94         | 1.69            | C       | 327.37                  | 491.06                        | 74.28                          | 9.08                       | 0.83                                 | 74.28                                    | 9.08                                 |
| 2   | 0.75    | 5.40          | 2.97            | A       | 1668.35                 | 2502.52                       | 157.02                         | 3.76                       | 1.74                                 | 157.03                                   | 3.76                                 |
| 3   | 0.74    | 17.54         | 2.77            | C       | 488.82                  | 733.22                        | 123.76                         | 10.13                      | 1.38                                 | 123.77                                   | 10.13                                |
| 4   | 0.95    | 23.05         | 14.87           | C       | 2060.10                 | 3090.16                       | 518.67                         | 10.07                      | 5.76                                 | 518.70                                   | 10.07                                |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 268.59                | 67.15                   | 267.26              | 200.79             | 1740.14                   | 0.00                       | 1069.53           | 554.39                       | 0.251 | 0.00              | 0.33            | 4.480     | A   |
| 2   | 1368.78               | 342.20                  | 1365.09             | 1482.83            | 524.57                    | 0.00                       | 2845.53           | 2555.84                      | 0.481 | 0.00              | 0.92            | 2.425     | A   |
| 3   | 401.05                | 100.26                  | 398.77              | 626.89             | 1262.78                   | 0.00                       | 1098.65           | 507.84                       | 0.365 | 0.00              | 0.57            | 5.127     | A   |
| 4   | 1690.20               | 422.55                  | 1683.49             | 1404.10            | 257.45                    | 0.00                       | 2687.92           | 2620.01                      | 0.629 | 0.00              | 1.68            | 3.562     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 320.72                | 80.18                   | 319.78              | 240.12             | 2080.55                   | 0.00                       | 878.98            | 554.39                       | 0.365 | 0.33              | 0.57            | 6.427     | A   |
| 2   | 1634.46               | 408.62                  | 1632.44             | 1773.01            | 627.33                    | 0.00                       | 2770.48           | 2555.84                      | 0.590 | 0.92              | 1.43            | 3.158     | A   |
| 3   | 478.89                | 119.72                  | 477.32              | 749.59             | 1510.17                   | 0.00                       | 969.01            | 507.84                       | 0.494 | 0.57              | 0.96            | 7.298     | A   |
| 4   | 2018.26               | 504.57                  | 2012.57             | 1679.39            | 308.11                    | 0.00                       | 2653.59           | 2620.01                      | 0.761 | 1.68              | 3.10            | 5.566     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 392.80                | 98.20                   | 388.86              | 291.31             | 2515.86                   | 0.00                       | 635.32            | 554.39                       | 0.618 | 0.57              | 1.56            | 14.385    | B   |
| 2   | 2001.80               | 500.45                  | 1995.85             | 2144.75            | 759.98                    | 0.00                       | 2673.58           | 2555.84                      | 0.749 | 1.43              | 2.91            | 5.266     | A   |
| 3   | 586.52                | 146.63                  | 579.76              | 910.54             | 1845.29                   | 0.00                       | 793.41            | 507.84                       | 0.739 | 0.96              | 2.65            | 16.364    | C   |
| 4   | 2471.85               | 617.96                  | 2432.49             | 2050.34            | 374.70                    | 0.00                       | 2608.48           | 2620.01                      | 0.948 | 3.10              | 12.94           | 17.525    | C   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 392.80                | 98.20                   | 392.26              | 294.25             | 2548.07                   | 0.00                       | 617.29            | 554.39                       | 0.636 | 1.56              | 1.69            | 15.936    | C   |
| 2   | 2001.80               | 500.45                  | 2001.58             | 2171.72            | 768.63                    | 0.00                       | 2667.27           | 2555.84                      | 0.751 | 2.91              | 2.97            | 5.404     | A   |
| 3   | 586.52                | 146.63                  | 586.04              | 918.47             | 1851.74                   | 0.00                       | 790.02            | 507.84                       | 0.742 | 2.65              | 2.77            | 17.538    | C   |
| 4   | 2471.85               | 617.96                  | 2464.15             | 2059.59            | 378.19                    | 0.00                       | 2606.11           | 2620.01                      | 0.948 | 12.94             | 14.87           | 23.047    | C   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 320.72                | 80.18                   | 325.03              | 244.75             | 2132.75                   | 0.00                       | 849.75            | 554.39                       | 0.377 | 1.69              | 0.61            | 6.917     | A   |
| 2   | 1634.46               | 408.62                  | 1640.47             | 1816.51            | 641.28                    | 0.00                       | 2760.31           | 2555.84                      | 0.592 | 2.97              | 1.46            | 3.231     | A   |
| 3   | 478.89                | 119.72                  | 485.96              | 762.29             | 1519.47                   | 0.00                       | 964.14            | 507.84                       | 0.497 | 2.77              | 1.00            | 7.635     | A   |
| 4   | 2018.26               | 504.57                  | 2064.60             | 1692.51            | 312.91                    | 0.00                       | 2650.34           | 2620.01                      | 0.762 | 14.87             | 3.28            | 6.615     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 268.59                | 67.15                   | 269.68              | 202.25             | 1753.92                   | 0.00                       | 1061.82           | 554.39                       | 0.253 | 0.61              | 0.34            | 4.552     | A   |
| 2   | 1368.78               | 342.20                  | 1370.91             | 1494.72            | 528.88                    | 0.00                       | 2842.38           | 2555.84                      | 0.482 | 1.46              | 0.93            | 2.449     | A   |
| 3   | 401.05                | 100.26                  | 402.73              | 631.00             | 1268.79                   | 0.00                       | 1095.49           | 507.84                       | 0.366 | 1.00              | 0.58            | 5.208     | A   |
| 4   | 1690.20               | 422.55                  | 1696.46             | 1411.79            | 259.73                    | 0.00                       | 2686.37           | 2620.01                      | 0.629 | 3.28              | 1.71            | 3.661     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.87                           | 0.32                                 | 4.480                                  | A                             | A                           |
| 2   | 13.54                          | 0.90                                 | 2.425                                  | A                             | A                           |
| 3   | 8.27                           | 0.55                                 | 5.127                                  | A                             | A                           |
| 4   | 24.25                          | 1.62                                 | 3.562                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.27                           | 0.55                                 | 6.427                                  | A                             | A                           |
| 2   | 20.89                          | 1.39                                 | 3.158                                  | A                             | A                           |
| 3   | 13.89                          | 0.93                                 | 7.298                                  | A                             | A                           |
| 4   | 44.06                          | 2.94                                 | 5.566                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 21.50                          | 1.43                                 | 14.385                                 | B                             | B                           |
| 2   | 41.48                          | 2.77                                 | 5.266                                  | A                             | A                           |
| 3   | 35.70                          | 2.38                                 | 16.364                                 | C                             | B                           |
| 4   | 152.89                         | 10.19                                | 17.525                                 | C                             | B                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 24.73                          | 1.65                                 | 15.936                                 | C                             | B                           |
| 2   | 44.21                          | 2.95                                 | 5.404                                  | A                             | A                           |
| 3   | 40.87                          | 2.72                                 | 17.538                                 | C                             | B                           |
| 4   | 210.73                         | 14.05                                | 23.047                                 | C                             | C                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.67                           | 0.64                                 | 6.917                                  | A                             | A                           |
| 2   | 22.64                          | 1.51                                 | 3.231                                  | A                             | A                           |
| 3   | 16.03                          | 1.07                                 | 7.635                                  | A                             | A                           |
| 4   | 60.12                          | 4.01                                 | 6.615                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.24                           | 0.35                                 | 4.552                                  | A                             | A                           |
| 2   | 14.27                          | 0.95                                 | 2.449                                  | A                             | A                           |
| 3   | 9.00                           | 0.60                                 | 5.208                                  | A                             | A                           |
| 4   | 26.61                          | 1.77                                 | 3.661                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, AM | Forecast Background + EA2 Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 36.35              | E            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 349.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 2059.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 543.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1822.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 262.75                            | 281.81                              |                                  |                                        |
| 08:00-08:15  | 2   | 1550.12                           | 1636.45                             |                                  |                                        |
| 08:00-08:15  | 3   | 408.80                            | 426.18                              |                                  |                                        |
| 08:00-08:15  | 4   | 1371.70                           | 1422.74                             |                                  |                                        |
| 08:15-08:30  | 1   | 313.74                            | 336.51                              |                                  |                                        |
| 08:15-08:30  | 2   | 1851.00                           | 1954.08                             |                                  |                                        |
| 08:15-08:30  | 3   | 488.15                            | 508.90                              |                                  |                                        |
| 08:15-08:30  | 4   | 1637.94                           | 1698.89                             |                                  |                                        |
| 08:30-08:45  | 1   | 384.26                            | 412.14                              |                                  |                                        |
| 08:30-08:45  | 2   | 2267.00                           | 2393.25                             |                                  |                                        |
| 08:30-08:45  | 3   | 597.85                            | 623.27                              |                                  |                                        |
| 08:30-08:45  | 4   | 2006.06                           | 2080.71                             |                                  |                                        |
| 08:45-09:00  | 1   | 384.26                            | 412.14                              |                                  |                                        |
| 08:45-09:00  | 2   | 2267.00                           | 2393.25                             |                                  |                                        |
| 08:45-09:00  | 3   | 597.85                            | 623.27                              |                                  |                                        |
| 08:45-09:00  | 4   | 2006.06                           | 2080.71                             |                                  |                                        |
| 09:00-09:15  | 1   | 313.74                            | 336.51                              |                                  |                                        |
| 09:00-09:15  | 2   | 1851.00                           | 1954.08                             |                                  |                                        |
| 09:00-09:15  | 3   | 488.15                            | 508.90                              |                                  |                                        |
| 09:00-09:15  | 4   | 1637.94                           | 1698.89                             |                                  |                                        |
| 09:15-09:30  | 1   | 262.75                            | 281.81                              |                                  |                                        |
| 09:15-09:30  | 2   | 1550.12                           | 1636.45                             |                                  |                                        |
| 09:15-09:30  | 3   | 408.80                            | 426.18                              |                                  |                                        |
| 09:15-09:30  | 4   | 1371.70                           | 1422.74                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
| From |   | 1       | 2        | 3       | 4        |
|      | 1 | 0.000   | 88.000   | 36.000  | 225.000  |
|      | 2 | 90.000  | 0.000    | 169.000 | 1800.000 |
|      | 3 | 92.000  | 228.000  | 0.000   | 223.000  |
|      | 4 | 111.000 | 1508.000 | 203.000 | 0.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.25 | 0.10 | 0.64 |
|      | 2 | 0.04 | 0.00 | 0.08 | 0.87 |
|      | 3 | 0.17 | 0.42 | 0.00 | 0.41 |
|      | 4 | 0.06 | 0.83 | 0.11 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      |   | To    |       |       |       |
|------|---|-------|-------|-------|-------|
| From |   | 1     | 2     | 3     | 4     |
|      | 1 | 1.000 | 1.120 | 1.029 | 1.061 |
|      | 2 | 1.082 | 1.000 | 1.081 | 1.052 |
|      | 3 | 1.046 | 1.069 | 1.000 | 1.014 |
|      | 4 | 1.029 | 1.040 | 1.021 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      |   | To  |      |     |     |
|------|---|-----|------|-----|-----|
| From |   | 1   | 2    | 3   | 4   |
|      | 1 | 0.0 | 12.0 | 2.9 | 6.1 |
|      | 2 | 8.2 | 0.0  | 8.1 | 5.2 |
|      | 3 | 4.6 | 6.9  | 0.0 | 1.4 |
|      | 4 | 2.9 | 4.0  | 2.1 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.47    | 8.37          | 0.88            | A       | 320.25                  | 480.37                        | 48.62                          | 6.07                       | 0.54                                 | 48.62                                    | 6.07                                 |
| 2   | 0.81    | 6.84          | 4.23            | A       | 1889.38                 | 2834.07                       | 210.31                         | 4.45                       | 2.34                                 | 210.32                                   | 4.45                                 |
| 3   | 1.18    | 267.61        | 49.56           | F       | 498.26                  | 747.40                        | 1189.73                        | 95.51                      | 13.22                                | 1189.75                                  | 95.51                                |
| 4   | 0.79    | 6.57          | 3.60            | A       | 1671.90                 | 2507.86                       | 191.69                         | 4.59                       | 2.13                                 | 191.70                                   | 4.59                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 262.74                | 65.69                   | 261.58              | 219.56             | 1454.28                   | 0.00                       | 1162.89           | 546.83                       | 0.226 | 0.00              | 0.29            | 3.989     | A   |
| 2   | 1550.13               | 387.53                  | 1545.60             | 1367.88            | 347.97                    | 0.00                       | 2911.64           | 2650.34                      | 0.532 | 0.00              | 1.13            | 2.627     | A   |
| 3   | 408.80                | 102.20                  | 405.46              | 306.19             | 1587.38                   | 0.00                       | 891.09            | 271.58                       | 0.459 | 0.00              | 0.83            | 7.364     | A   |
| 4   | 1371.70               | 342.93                  | 1367.33             | 1686.33            | 306.50                    | 0.00                       | 2617.38           | 2638.23                      | 0.524 | 0.00              | 1.09            | 2.871     | A   |



### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 313.74                | 78.44                   | 313.11              | 262.39             | 1738.91                   | 0.00                       | 1007.94           | 546.83                       | 0.311 | 0.29              | 0.45            | 5.177     | A   |
| 2   | 1851.00               | 462.75                  | 1848.28             | 1635.66            | 416.37                    | 0.00                       | 2861.34           | 2650.34                      | 0.647 | 1.13              | 1.81            | 3.545     | A   |
| 3   | 488.14                | 122.04                  | 483.78              | 366.21             | 1898.44                   | 0.00                       | 730.28            | 271.58                       | 0.668 | 0.83              | 1.92            | 14.380    | B   |
| 4   | 1637.95               | 409.49                  | 1635.41             | 2016.32            | 365.89                    | 0.00                       | 2575.54           | 2638.23                      | 0.636 | 1.09              | 1.73            | 3.820     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 384.25                | 96.06                   | 382.57              | 305.00             | 2086.59                   | 0.00                       | 819.22            | 546.83                       | 0.469 | 0.45              | 0.87            | 8.213     | A   |
| 2   | 2267.00               | 566.75                  | 2257.66             | 1960.34            | 508.81                    | 0.00                       | 2793.38           | 2650.34                      | 0.812 | 1.81              | 4.15            | 6.608     | A   |
| 3   | 597.85                | 149.46                  | 498.96              | 447.47             | 2319.01                   | 0.00                       | 512.87            | 271.58                       | 1.166 | 1.92              | 26.65           | 121.337   | F   |
| 4   | 2006.07               | 501.52                  | 1998.85             | 2425.24            | 392.73                    | 0.00                       | 2556.48           | 2638.23                      | 0.785 | 1.73              | 3.53            | 6.373     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 384.25                | 96.06                   | 384.19              | 307.04             | 2096.13                   | 0.00                       | 813.98            | 546.83                       | 0.472 | 0.87              | 0.88            | 8.373     | A   |
| 2   | 2267.00               | 566.75                  | 2266.66             | 1969.54            | 510.79                    | 0.00                       | 2791.92           | 2650.34                      | 0.812 | 4.15              | 4.23            | 6.841     | A   |
| 3   | 597.85                | 149.46                  | 506.22              | 449.15             | 2328.31                   | 0.00                       | 508.06            | 271.58                       | 1.177 | 26.65             | 49.56           | 267.610   | F   |
| 4   | 2006.07               | 501.52                  | 2005.78             | 2437.13            | 397.40                    | 0.00                       | 2553.19           | 2638.23                      | 0.786 | 3.53              | 3.60            | 6.568     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 313.74                | 78.44                   | 315.31              | 296.12             | 1828.43                   | 0.00                       | 958.05            | 546.83                       | 0.327 | 0.88              | 0.49            | 5.614     | A   |
| 2   | 1851.00               | 462.75                  | 1860.51             | 1724.71            | 419.04                    | 0.00                       | 2859.37           | 2650.34                      | 0.647 | 4.23              | 1.86            | 3.636     | A   |
| 3   | 488.14                | 122.04                  | 676.42              | 368.47             | 1911.09                   | 0.00                       | 723.75            | 271.58                       | 0.674 | 49.56             | 2.49            | 123.161   | F   |
| 4   | 1637.95               | 409.49                  | 1644.61             | 2107.55            | 479.95                    | 0.00                       | 2495.50           | 2638.23                      | 0.656 | 3.60              | 1.94            | 4.264     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 262.74                | 65.69                   | 263.53              | 222.01             | 1465.60                   | 0.00                       | 1156.68           | 546.83                       | 0.227 | 0.49              | 0.30            | 4.033     | A   |
| 2   | 1550.13               | 387.53                  | 1552.96             | 1378.85            | 350.28                    | 0.00                       | 2909.94           | 2650.34                      | 0.533 | 1.86              | 1.15            | 2.657     | A   |
| 3   | 408.80                | 102.20                  | 415.28              | 307.84             | 1595.40                   | 0.00                       | 886.94            | 271.58                       | 0.461 | 2.49              | 0.87            | 7.735     | A   |
| 4   | 1371.70               | 342.93                  | 1374.99             | 1698.06            | 312.61                    | 0.00                       | 2613.09           | 2638.23                      | 0.525 | 1.94              | 1.11            | 2.917     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.25                           | 0.28                                 | 3.989                                  | A                             | A                           |
| 2   | 16.56                          | 1.10                                 | 2.627                                  | A                             | A                           |
| 3   | 11.94                          | 0.80                                 | 7.364                                  | A                             | A                           |
| 4   | 15.99                          | 1.07                                 | 2.871                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.57                           | 0.44                                 | 5.177                                  | A                             | A                           |
| 2   | 26.40                          | 1.76                                 | 3.545                                  | A                             | A                           |
| 3   | 26.55                          | 1.77                                 | 14.380                                 | B                             | B                           |
| 4   | 25.14                          | 1.68                                 | 3.820                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.49                          | 0.83                                 | 8.213                                  | A                             | A                           |
| 2   | 57.80                          | 3.85                                 | 6.608                                  | A                             | A                           |
| 3   | 226.96                         | 15.13                                | 121.337                                | F                             | F                           |
| 4   | 49.66                          | 3.31                                 | 6.373                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.19                          | 0.88                                 | 8.373                                  | A                             | A                           |
| 2   | 62.99                          | 4.20                                 | 6.841                                  | A                             | A                           |
| 3   | 572.15                         | 38.14                                | 267.610                                | F                             | F                           |
| 4   | 53.62                          | 3.57                                 | 6.568                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.60                           | 0.51                                 | 5.614                                  | A                             | A                           |
| 2   | 28.98                          | 1.93                                 | 3.636                                  | A                             | A                           |
| 3   | 338.26                         | 22.55                                | 123.161                                | F                             | F                           |
| 4   | 30.18                          | 2.01                                 | 4.264                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.53                           | 0.30                                 | 4.033                                  | A                             | A                           |
| 2   | 17.58                          | 1.17                                 | 2.657                                  | A                             | A                           |
| 3   | 13.87                          | 0.92                                 | 7.735                                  | A                             | A                           |
| 4   | 17.09                          | 1.14                                 | 2.917                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 Construction 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                            | Scenario Name                               | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|-------------------------------------------------|---------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 Construction 2023, PM | Forecast Background + EA2 Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 21.19              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 366.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1883.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 540.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2305.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 275.54                            | 282.75                              |                                  |                                        |
| 16:45-17:00  | 2   | 1417.62                           | 1468.30                             |                                  |                                        |
| 16:45-17:00  | 3   | 406.54                            | 412.11                              |                                  |                                        |
| 16:45-17:00  | 4   | 1735.32                           | 1781.85                             |                                  |                                        |
| 17:00-17:15  | 1   | 329.03                            | 337.64                              |                                  |                                        |
| 17:00-17:15  | 2   | 1692.78                           | 1753.29                             |                                  |                                        |
| 17:00-17:15  | 3   | 485.45                            | 492.10                              |                                  |                                        |
| 17:00-17:15  | 4   | 2072.15                           | 2127.71                             |                                  |                                        |
| 17:15-17:30  | 1   | 402.97                            | 413.52                              |                                  |                                        |
| 17:15-17:30  | 2   | 2073.22                           | 2147.34                             |                                  |                                        |
| 17:15-17:30  | 3   | 594.55                            | 602.70                              |                                  |                                        |
| 17:15-17:30  | 4   | 2537.85                           | 2605.90                             |                                  |                                        |
| 17:30-17:45  | 1   | 402.97                            | 413.52                              |                                  |                                        |
| 17:30-17:45  | 2   | 2073.22                           | 2147.34                             |                                  |                                        |
| 17:30-17:45  | 3   | 594.55                            | 602.70                              |                                  |                                        |
| 17:30-17:45  | 4   | 2537.85                           | 2605.90                             |                                  |                                        |
| 17:45-18:00  | 1   | 329.03                            | 337.64                              |                                  |                                        |
| 17:45-18:00  | 2   | 1692.78                           | 1753.29                             |                                  |                                        |
| 17:45-18:00  | 3   | 485.45                            | 492.10                              |                                  |                                        |
| 17:45-18:00  | 4   | 2072.15                           | 2127.71                             |                                  |                                        |
| 18:00-18:15  | 1   | 275.54                            | 282.75                              |                                  |                                        |
| 18:00-18:15  | 2   | 1417.62                           | 1468.30                             |                                  |                                        |
| 18:00-18:15  | 3   | 406.54                            | 412.11                              |                                  |                                        |
| 18:00-18:15  | 4   | 1735.32                           | 1781.85                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
| From |   | 1       | 2        | 3       | 4        |
|      | 1 | 1.000   | 92.000   | 91.000  | 182.000  |
|      | 2 | 66.000  | 0.000    | 321.000 | 1496.000 |
|      | 3 | 51.000  | 231.000  | 0.000   | 258.000  |
|      | 4 | 159.000 | 1710.000 | 433.000 | 3.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.25 | 0.25 | 0.50 |
|      | 2 | 0.04 | 0.00 | 0.17 | 0.79 |
|      | 3 | 0.09 | 0.43 | 0.00 | 0.48 |
|      | 4 | 0.07 | 0.74 | 0.19 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.023 | 1.000 | 1.041 |
|      | 2  | 1.016 | 1.000 | 1.020 | 1.040 |
|      | 3  | 1.021 | 1.014 | 1.000 | 1.012 |
|      | 4  | 1.047 | 1.030 | 1.007 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 2.3 | 0.0 | 4.1 |
|      | 2  | 1.6 | 0.0 | 2.0 | 4.0 |
|      | 3  | 2.1 | 1.4 | 0.0 | 1.2 |
|      | 4  | 4.7 | 3.0 | 0.7 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.68    | 19.17         | 2.07            | C       | 335.85                  | 503.77                        | 86.06                          | 10.25                      | 0.96                                 | 86.06                                    | 10.25                                |
| 2   | 0.78    | 6.12          | 3.47            | A       | 1727.87                 | 2591.81                       | 177.29                         | 4.10                       | 1.97                                 | 177.30                                   | 4.10                                 |
| 3   | 0.79    | 22.42         | 3.55            | C       | 495.51                  | 743.27                        | 146.98                         | 11.87                      | 1.63                                 | 146.99                                   | 11.87                                |
| 4   | 0.98    | 33.64         | 22.68           | D       | 2115.11                 | 3172.67                       | 692.52                         | 13.10                      | 7.69                                 | 692.56                                   | 13.10                                |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 275.54                | 68.89                   | 274.12              | 207.67             | 1781.77                   | 0.00                       | 1045.86           | 556.21                       | 0.263 | 0.00              | 0.36            | 4.656     | A   |
| 2   | 1417.62               | 354.41                  | 1413.66             | 1523.80            | 532.10                    | 0.00                       | 2839.76           | 2560.84                      | 0.499 | 0.00              | 0.99            | 2.517     | A   |
| 3   | 406.54                | 101.63                  | 404.12              | 633.77             | 1311.97                   | 0.00                       | 1072.84           | 499.61                       | 0.379 | 0.00              | 0.60            | 5.364     | A   |
| 4   | 1735.33               | 433.83                  | 1728.11             | 1454.75            | 261.34                    | 0.00                       | 2684.99           | 2623.44                      | 0.646 | 0.00              | 1.81            | 3.736     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 329.03                | 82.26                   | 327.96              | 248.30             | 2129.87                   | 0.00                       | 851.04            | 556.21                       | 0.387 | 0.36              | 0.62            | 6.868     | A   |
| 2   | 1692.78               | 423.19                  | 1690.48             | 1821.62            | 636.21                    | 0.00                       | 2763.70           | 2560.84                      | 0.613 | 0.99              | 1.57            | 3.347     | A   |
| 3   | 485.45                | 121.36                  | 483.65              | 757.72             | 1568.96                   | 0.00                       | 938.17            | 499.61                       | 0.517 | 0.60              | 1.05            | 7.889     | A   |
| 4   | 2072.15               | 518.04                  | 2065.46             | 1739.90            | 312.72                    | 0.00                       | 2650.18           | 2623.44                      | 0.782 | 1.81              | 3.48            | 6.085     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 402.97                | 100.74                  | 398.10              | 299.85             | 2559.24                   | 0.00                       | 610.75            | 556.21                       | 0.660 | 0.62              | 1.84            | 16.622    | C   |
| 2   | 2073.22               | 518.31                  | 2065.94             | 2190.24            | 767.11                    | 0.00                       | 2668.05           | 2560.84                      | 0.777 | 1.57              | 3.39            | 5.909     | A   |
| 3   | 594.55                | 148.64                  | 585.46              | 917.01             | 1916.02                   | 0.00                       | 756.30            | 499.61                       | 0.786 | 1.05              | 3.33            | 20.099    | C   |
| 4   | 2537.86               | 634.46                  | 2479.87             | 2122.25            | 379.24                    | 0.00                       | 2605.12           | 2623.44                      | 0.974 | 3.48              | 17.98           | 22.369    | C   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 402.97                | 100.74                  | 402.05              | 303.59             | 2599.23                   | 0.00                       | 588.38            | 556.21                       | 0.685 | 1.84              | 2.07            | 19.174    | C   |
| 2   | 2073.22               | 518.31                  | 2072.89             | 2223.81            | 777.48                    | 0.00                       | 2660.49           | 2560.84                      | 0.779 | 3.39              | 3.47            | 6.119     | A   |
| 3   | 594.55                | 148.64                  | 593.67              | 926.54             | 1923.82                   | 0.00                       | 752.22            | 499.61                       | 0.790 | 3.33              | 3.55            | 22.424    | C   |
| 4   | 2537.86               | 634.46                  | 2519.04             | 2133.72            | 383.78                    | 0.00                       | 2602.04           | 2623.44                      | 0.975 | 17.98             | 22.68           | 33.644    | D   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 329.03                | 82.26                   | 334.51              | 255.44             | 2211.61                   | 0.00                       | 805.28            | 556.21                       | 0.409 | 2.07              | 0.70            | 7.734     | A   |
| 2   | 1692.78               | 423.19                  | 1700.18             | 1889.40            | 656.71                    | 0.00                       | 2748.76           | 2560.84                      | 0.616 | 3.47              | 1.62            | 3.458     | A   |
| 3   | 485.45                | 121.36                  | 495.21              | 776.50             | 1580.39                   | 0.00                       | 932.18            | 499.61                       | 0.521 | 3.55              | 1.11            | 8.414     | A   |
| 4   | 2072.15               | 518.04                  | 2147.93             | 1756.49            | 319.11                    | 0.00                       | 2645.85           | 2623.44                      | 0.783 | 22.68             | 3.74            | 8.311     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 275.54                | 68.89                   | 276.89              | 209.33             | 1797.38                   | 0.00                       | 1037.12           | 556.21                       | 0.266 | 0.70              | 0.36            | 4.743     | A   |
| 2   | 1417.62               | 354.41                  | 1420.08             | 1537.32            | 536.96                    | 0.00                       | 2836.20           | 2560.84                      | 0.500 | 1.62              | 1.00            | 2.548     | A   |
| 3   | 406.54                | 101.63                  | 408.49              | 638.33             | 1318.70                   | 0.00                       | 1069.31           | 499.61                       | 0.380 | 1.11              | 0.62            | 5.465     | A   |
| 4   | 1735.33               | 433.83                  | 1742.87             | 1463.34            | 263.85                    | 0.00                       | 2683.29           | 2623.44                      | 0.647 | 3.74              | 1.85            | 3.858     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.18                           | 0.35                                 | 4.656                                  | A                             | A                           |
| 2   | 14.54                          | 0.97                                 | 2.517                                  | A                             | A                           |
| 3   | 8.76                           | 0.58                                 | 5.364                                  | A                             | A                           |
| 4   | 26.06                          | 1.74                                 | 3.736                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.04                           | 0.60                                 | 6.868                                  | A                             | A                           |
| 2   | 22.88                          | 1.53                                 | 3.347                                  | A                             | A                           |
| 3   | 15.15                          | 1.01                                 | 7.889                                  | A                             | A                           |
| 4   | 49.12                          | 3.27                                 | 6.085                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 25.08                          | 1.67                                 | 16.622                                 | C                             | B                           |
| 2   | 47.78                          | 3.19                                 | 5.909                                  | A                             | A                           |
| 3   | 43.53                          | 2.90                                 | 20.099                                 | C                             | C                           |
| 4   | 197.70                         | 13.18                                | 22.369                                 | C                             | C                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 29.99                          | 2.00                                 | 19.174                                 | C                             | B                           |
| 2   | 51.58                          | 3.44                                 | 6.119                                  | A                             | A                           |
| 3   | 51.92                          | 3.46                                 | 22.424                                 | C                             | C                           |
| 4   | 308.69                         | 20.58                                | 33.644                                 | D                             | C                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 11.16                          | 0.74                                 | 7.734                                  | A                             | A                           |
| 2   | 25.13                          | 1.68                                 | 3.458                                  | A                             | A                           |
| 3   | 18.04                          | 1.20                                 | 8.414                                  | A                             | A                           |
| 4   | 82.12                          | 5.47                                 | 8.311                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.61                           | 0.37                                 | 4.743                                  | A                             | A                           |
| 2   | 15.38                          | 1.03                                 | 2.548                                  | A                             | A                           |
| 3   | 9.59                           | 0.64                                 | 5.465                                  | A                             | A                           |
| 4   | 28.83                          | 1.92                                 | 3.858                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |



## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, AM | Forecast Background + EA2 + EA1N Construction 2023 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 46.10              | E            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 350.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 2090.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 553.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1833.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 263.50                            | 282.61                              |                                  |                                        |
| 08:00-08:15  | 2   | 1573.46                           | 1667.90                             |                                  |                                        |
| 08:00-08:15  | 3   | 416.33                            | 433.81                              |                                  |                                        |
| 08:00-08:15  | 4   | 1379.98                           | 1439.36                             |                                  |                                        |
| 08:15-08:30  | 1   | 314.64                            | 337.47                              |                                  |                                        |
| 08:15-08:30  | 2   | 1878.87                           | 1991.63                             |                                  |                                        |
| 08:15-08:30  | 3   | 497.14                            | 518.02                              |                                  |                                        |
| 08:15-08:30  | 4   | 1647.83                           | 1718.74                             |                                  |                                        |
| 08:30-08:45  | 1   | 385.36                            | 413.31                              |                                  |                                        |
| 08:30-08:45  | 2   | 2301.13                           | 2439.24                             |                                  |                                        |
| 08:30-08:45  | 3   | 608.86                            | 634.44                              |                                  |                                        |
| 08:30-08:45  | 4   | 2018.17                           | 2105.01                             |                                  |                                        |
| 08:45-09:00  | 1   | 385.36                            | 413.31                              |                                  |                                        |
| 08:45-09:00  | 2   | 2301.13                           | 2439.24                             |                                  |                                        |
| 08:45-09:00  | 3   | 608.86                            | 634.44                              |                                  |                                        |
| 08:45-09:00  | 4   | 2018.17                           | 2105.01                             |                                  |                                        |
| 09:00-09:15  | 1   | 314.64                            | 337.47                              |                                  |                                        |
| 09:00-09:15  | 2   | 1878.87                           | 1991.63                             |                                  |                                        |
| 09:00-09:15  | 3   | 497.14                            | 518.02                              |                                  |                                        |
| 09:00-09:15  | 4   | 1647.83                           | 1718.74                             |                                  |                                        |
| 09:15-09:30  | 1   | 263.50                            | 282.61                              |                                  |                                        |
| 09:15-09:30  | 2   | 1573.46                           | 1667.90                             |                                  |                                        |
| 09:15-09:30  | 3   | 416.33                            | 433.81                              |                                  |                                        |
| 09:15-09:30  | 4   | 1379.98                           | 1439.36                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
| From |   | 1       | 2        | 3       | 4        |
|      | 1 | 0.000   | 88.000   | 36.000  | 226.000  |
|      | 2 | 90.000  | 0.000    | 169.000 | 1831.000 |
|      | 3 | 92.000  | 228.000  | 0.000   | 233.000  |
|      | 4 | 111.000 | 1519.000 | 203.000 | 0.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.25 | 0.10 | 0.65 |
|      | 2 | 0.04 | 0.00 | 0.08 | 0.88 |
|      | 3 | 0.17 | 0.41 | 0.00 | 0.42 |
|      | 4 | 0.06 | 0.83 | 0.11 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.120 | 1.029 | 1.061 |
|      | 2  | 1.082 | 1.000 | 1.081 | 1.057 |
|      | 3  | 1.046 | 1.069 | 1.000 | 1.014 |
|      | 4  | 1.029 | 1.047 | 1.021 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      | To |     |      |     |     |
|------|----|-----|------|-----|-----|
|      |    | 1   | 2    | 3   | 4   |
| From | 1  | 0.0 | 12.0 | 2.9 | 6.1 |
|      | 2  | 8.2 | 0.0  | 8.1 | 5.7 |
|      | 3  | 4.6 | 6.9  | 0.0 | 1.4 |
|      | 4  | 2.9 | 4.7  | 2.1 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.48    | 8.50          | 0.90            | A       | 321.17                  | 481.75                        | 49.59                          | 6.18                       | 0.55                                 | 49.59                                    | 6.18                                 |
| 2   | 0.83    | 7.50          | 4.69            | A       | 1917.82                 | 2876.72                       | 227.33                         | 4.74                       | 2.53                                 | 227.34                                   | 4.74                                 |
| 3   | 1.25    | 349.57        | 65.23           | F       | 507.44                  | 761.16                        | 1711.09                        | 134.88                     | 19.01                                | 1711.12                                  | 134.88                               |
| 4   | 0.79    | 6.74          | 3.72            | A       | 1681.99                 | 2522.99                       | 198.08                         | 4.71                       | 2.20                                 | 198.09                                   | 4.71                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 263.50                | 65.87                   | 262.32              | 219.52             | 1462.38                   | 0.00                       | 1154.36           | 545.29                       | 0.228 | 0.00              | 0.29            | 4.031     | A   |
| 2   | 1573.46               | 393.36                  | 1568.74             | 1376.00            | 348.70                    | 0.00                       | 2899.20           | 2642.14                      | 0.543 | 0.00              | 1.18            | 2.697     | A   |
| 3   | 416.33                | 104.08                  | 412.76              | 306.17             | 1611.28                   | 0.00                       | 875.82            | 268.52                       | 0.475 | 0.00              | 0.89            | 7.716     | A   |
| 4   | 1379.98               | 344.99                  | 1375.50             | 1717.64            | 306.40                    | 0.00                       | 2602.85           | 2628.24                      | 0.530 | 0.00              | 1.12            | 2.922     | A   |

### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 314.64                | 78.66                   | 313.99              | 262.25             | 1748.39                   | 0.00                       | 997.84            | 545.29                       | 0.315 | 0.29              | 0.46            | 5.260     | A   |
| 2   | 1878.86               | 469.72                  | 1875.92             | 1645.13            | 417.24                    | 0.00                       | 2849.00           | 2642.14                      | 0.659 | 1.18              | 1.91            | 3.689     | A   |
| 3   | 497.14                | 124.28                  | 491.95              | 366.19             | 1926.98                   | 0.00                       | 711.88            | 268.52                       | 0.698 | 0.89              | 2.19            | 16.006    | C   |
| 4   | 1647.83               | 411.96                  | 1645.18             | 2053.49            | 365.45                    | 0.00                       | 2561.48           | 2628.24                      | 0.643 | 1.12              | 1.78            | 3.918     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 385.36                | 96.34                   | 383.64              | 300.45             | 2087.33                   | 0.00                       | 812.91            | 545.29                       | 0.474 | 0.46              | 0.89            | 8.354     | A   |
| 2   | 2301.13               | 575.28                  | 2290.45             | 1961.11            | 509.86                    | 0.00                       | 2781.18           | 2642.14                      | 0.827 | 1.91              | 4.58            | 7.184     | A   |
| 3   | 608.86                | 152.22                  | 481.19              | 447.35             | 2352.97                   | 0.00                       | 490.67            | 268.52                       | 1.241 | 2.19              | 34.11           | 153.661   | F   |
| 4   | 2018.17               | 504.54                  | 2010.71             | 2457.07            | 377.08                    | 0.00                       | 2553.13           | 2628.24                      | 0.790 | 1.78              | 3.65            | 6.547     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 385.36                | 96.34                   | 385.30              | 301.85             | 2095.41                   | 0.00                       | 808.49            | 545.29                       | 0.477 | 0.89              | 0.90            | 8.504     | A   |
| 2   | 2301.13               | 575.28                  | 2300.69             | 1968.80            | 511.90                    | 0.00                       | 2779.69           | 2642.14                      | 0.828 | 4.58              | 4.69            | 7.498     | A   |
| 3   | 608.86                | 152.22                  | 484.35              | 449.14             | 2363.44                   | 0.00                       | 485.23            | 268.52                       | 1.255 | 34.11             | 65.23           | 349.573   | F   |
| 4   | 2018.17               | 504.54                  | 2017.90             | 2468.44            | 379.35                    | 0.00                       | 2551.55           | 2628.24                      | 0.791 | 3.65              | 3.72            | 6.738     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 314.64                | 78.66                   | 316.24              | 297.01             | 1840.54                   | 0.00                       | 946.45            | 545.29                       | 0.332 | 0.90              | 0.50            | 5.725     | A   |
| 2   | 1878.86               | 469.72                  | 1889.78             | 1736.79            | 419.97                    | 0.00                       | 2847.00           | 2642.14                      | 0.660 | 4.69              | 1.96            | 3.801     | A   |
| 3   | 497.14                | 124.28                  | 693.87              | 368.59             | 1941.17                   | 0.00                       | 704.51            | 268.52                       | 0.706 | 65.23             | 16.05           | 215.357   | F   |
| 4   | 1647.83               | 411.96                  | 1654.66             | 2152.15            | 482.90                    | 0.00                       | 2479.52           | 2628.24                      | 0.665 | 3.72              | 2.01            | 4.399     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 263.50                | 65.87                   | 264.29              | 230.98             | 1496.18                   | 0.00                       | 1135.56           | 545.29                       | 0.232 | 0.50              | 0.30            | 4.136     | A   |
| 2   | 1573.46               | 393.36                  | 1576.53             | 1409.43            | 351.05                    | 0.00                       | 2897.47           | 2642.14                      | 0.543 | 1.96              | 1.20            | 2.733     | A   |
| 3   | 416.33                | 104.08                  | 476.80              | 307.87             | 1619.71                   | 0.00                       | 871.44            | 268.52                       | 0.478 | 16.05             | 0.93            | 10.612    | B   |
| 4   | 1379.98               | 344.99                  | 1383.37             | 1752.72            | 343.79                    | 0.00                       | 2576.76           | 2628.24                      | 0.536 | 2.01              | 1.16            | 3.024     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.31                           | 0.29                                 | 4.031                                  | A                             | A                           |
| 2   | 17.24                          | 1.15                                 | 2.697                                  | A                             | A                           |
| 3   | 12.71                          | 0.85                                 | 7.716                                  | A                             | A                           |
| 4   | 16.37                          | 1.09                                 | 2.922                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.69                           | 0.45                                 | 5.260                                  | A                             | A                           |
| 2   | 27.83                          | 1.86                                 | 3.689                                  | A                             | A                           |
| 3   | 29.83                          | 1.99                                 | 16.006                                 | C                             | B                           |
| 4   | 25.92                          | 1.73                                 | 3.918                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.73                          | 0.85                                 | 8.354                                  | A                             | A                           |
| 2   | 63.33                          | 4.22                                 | 7.184                                  | A                             | A                           |
| 3   | 282.02                         | 18.80                                | 153.661                                | F                             | F                           |
| 4   | 51.21                          | 3.41                                 | 6.547                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 13.43                          | 0.90                                 | 8.504                                  | A                             | A                           |
| 2   | 69.77                          | 4.65                                 | 7.498                                  | A                             | A                           |
| 3   | 745.37                         | 49.69                                | 349.573                                | F                             | F                           |
| 4   | 55.35                          | 3.69                                 | 6.738                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.78                           | 0.52                                 | 5.725                                  | A                             | A                           |
| 2   | 30.80                          | 2.05                                 | 3.801                                  | A                             | A                           |
| 3   | 609.63                         | 40.64                                | 215.357                                | F                             | F                           |
| 4   | 31.37                          | 2.09                                 | 4.399                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.66                           | 0.31                                 | 4.136                                  | A                             | A                           |
| 2   | 18.35                          | 1.22                                 | 2.733                                  | A                             | A                           |
| 3   | 31.53                          | 2.10                                 | 10.612                                 | B                             | B                           |
| 4   | 17.86                          | 1.19                                 | 3.024                                  | A                             | A                           |

## Existing Layout - Forecast Background + EA2 + EA1N Construction 2023, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

## Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                                                   | Scenario Name                                      | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | R |
|--------------------------------------------------------|----------------------------------------------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|---|
| Forecast Background + EA2 + EA1N Construction 2023, PM | Forecast Background + EA2 + EA1N Construction 2023 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |   |

# Junction Network

## Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 27.62              | D            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

The slope and intercept shown above include any corrections and adjustments.

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 366.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1894.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 540.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2346.00                      | 100.000                 |



# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 275.54                            | 282.75                              |                                  |                                        |
| 16:45-17:00  | 2   | 1425.90                           | 1484.85                             |                                  |                                        |
| 16:45-17:00  | 3   | 406.54                            | 412.11                              |                                  |                                        |
| 16:45-17:00  | 4   | 1766.19                           | 1821.34                             |                                  |                                        |
| 17:00-17:15  | 1   | 329.03                            | 337.64                              |                                  |                                        |
| 17:00-17:15  | 2   | 1702.67                           | 1773.06                             |                                  |                                        |
| 17:00-17:15  | 3   | 485.45                            | 492.10                              |                                  |                                        |
| 17:00-17:15  | 4   | 2109.01                           | 2174.86                             |                                  |                                        |
| 17:15-17:30  | 1   | 402.97                            | 413.52                              |                                  |                                        |
| 17:15-17:30  | 2   | 2085.33                           | 2171.55                             |                                  |                                        |
| 17:15-17:30  | 3   | 594.55                            | 602.70                              |                                  |                                        |
| 17:15-17:30  | 4   | 2582.99                           | 2663.64                             |                                  |                                        |
| 17:30-17:45  | 1   | 402.97                            | 413.52                              |                                  |                                        |
| 17:30-17:45  | 2   | 2085.33                           | 2171.55                             |                                  |                                        |
| 17:30-17:45  | 3   | 594.55                            | 602.70                              |                                  |                                        |
| 17:30-17:45  | 4   | 2582.99                           | 2663.64                             |                                  |                                        |
| 17:45-18:00  | 1   | 329.03                            | 337.64                              |                                  |                                        |
| 17:45-18:00  | 2   | 1702.67                           | 1773.06                             |                                  |                                        |
| 17:45-18:00  | 3   | 485.45                            | 492.10                              |                                  |                                        |
| 17:45-18:00  | 4   | 2109.01                           | 2174.86                             |                                  |                                        |
| 18:00-18:15  | 1   | 275.54                            | 282.75                              |                                  |                                        |
| 18:00-18:15  | 2   | 1425.90                           | 1484.85                             |                                  |                                        |
| 18:00-18:15  | 3   | 406.54                            | 412.11                              |                                  |                                        |
| 18:00-18:15  | 4   | 1766.19                           | 1821.34                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 1.000   | 92.000   | 91.000  | 182.000  |
|      | 2  | 66.000  | 0.000    | 321.000 | 1507.000 |
|      | 3  | 51.000  | 231.000  | 0.000   | 258.000  |
|      | 4  | 159.000 | 1741.000 | 443.000 | 3.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.25 | 0.25 | 0.50 |
|      | 2  | 0.03 | 0.00 | 0.17 | 0.80 |
|      | 3  | 0.09 | 0.43 | 0.00 | 0.48 |
|      | 4  | 0.07 | 0.74 | 0.19 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.023 | 1.000 | 1.041 |
|      | 2  | 1.016 | 1.000 | 1.020 | 1.047 |
|      | 3  | 1.021 | 1.014 | 1.000 | 1.012 |
|      | 4  | 1.047 | 1.036 | 1.007 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 2.3 | 0.0 | 4.1 |
|      | 2  | 1.6 | 0.0 | 2.0 | 4.7 |
|      | 3  | 2.1 | 1.4 | 0.0 | 1.2 |
|      | 4  | 4.7 | 3.6 | 0.7 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.71    | 21.53         | 2.31            | C       | 335.85                  | 503.77                        | 93.60                          | 11.15                      | 1.04                                 | 93.60                                    | 11.15                                |
| 2   | 0.79    | 6.46          | 3.68            | A       | 1737.97                 | 2606.96                       | 185.68                         | 4.27                       | 2.06                                 | 185.69                                   | 4.27                                 |
| 3   | 0.80    | 24.17         | 3.81            | C       | 495.51                  | 743.27                        | 154.17                         | 12.45                      | 1.71                                 | 154.18                                   | 12.45                                |
| 4   | 1.00    | 46.60         | 33.49           | E       | 2152.74                 | 3229.11                       | 916.95                         | 17.04                      | 10.19                                | 917.00                                   | 17.04                                |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 275.54                | 68.89                   | 274.08              | 207.64             | 1812.19                   | 0.00                       | 1024.55           | 553.73                       | 0.269 | 0.00              | 0.37            | 4.789     | A   |
| 2   | 1425.91               | 356.48                  | 1421.84             | 1546.77            | 539.50                    | 0.00                       | 2819.17           | 2547.98                      | 0.506 | 0.00              | 1.02            | 2.569     | A   |
| 3   | 406.54                | 101.63                  | 404.09              | 641.19             | 1320.15                   | 0.00                       | 1064.56           | 497.40                       | 0.382 | 0.00              | 0.61            | 5.431     | A   |
| 4   | 1766.20               | 441.55                  | 1758.51             | 1462.92            | 261.32                    | 0.00                       | 2673.52           | 2613.66                      | 0.661 | 0.00              | 1.92            | 3.902     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 329.03                | 82.26                   | 327.87              | 248.23             | 2165.78                   | 0.00                       | 825.83            | 553.74                       | 0.398 | 0.37              | 0.65            | 7.214     | A   |
| 2   | 1702.67               | 425.67                  | 1700.26             | 1848.70            | 644.94                    | 0.00                       | 2742.57           | 2547.98                      | 0.621 | 1.02              | 1.62            | 3.447     | A   |
| 3   | 485.45                | 121.36                  | 483.59              | 766.48             | 1578.71                   | 0.00                       | 928.28            | 497.41                       | 0.523 | 0.61              | 1.08            | 8.062     | A   |
| 4   | 2109.01               | 527.25                  | 2101.33             | 1749.61            | 312.69                    | 0.00                       | 2638.87           | 2613.66                      | 0.799 | 1.92              | 3.84            | 6.602     | A   |

### Main results: (17:15-17:30)

| Arm | Demand (Veh/hr) | Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Flow (Veh/hr) | Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Queue (Veh) | Queue (Veh) | Delay (s) | LOS |
|-----|-----------------|----------------|---------------------|--------------------|---------------|-----------------|-------------------|------------------------------|-------|-------------|-------------|-----------|-----|
| 1   | 402.97          | 100.74         | 397.53              | 298.32             | 2583.23       | 0.00            | 591.24            | 553.74                       | 0.682 | 0.65        | 2.01        | 18.106    | C   |
| 2   | 2085.34         | 521.34         | 2077.49             | 2207.36            | 773.40        | 0.00            | 2649.19           | 2547.98                      | 0.787 | 1.62        | 3.58        | 6.214     | A   |
| 3   | 594.55          | 148.64         | 584.68              | 923.53             | 1927.35       | 0.00            | 744.53            | 497.41                       | 0.799 | 1.08        | 3.54        | 21.342    | C   |
| 4   | 2583.00         | 645.75         | 2502.75             | 2133.22            | 378.82        | 0.00            | 2594.27           | 2613.66                      | 0.996 | 3.84        | 23.91       | 27.486    | D   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 402.97                | 100.74                  | 401.77              | 302.27             | 2626.07                   | 0.00                       | 567.17            | 553.74                       | 0.711 | 2.01              | 2.31            | 21.528    | C   |
| 2   | 2085.34               | 521.34                  | 2084.96             | 2243.30            | 784.54                    | 0.00                       | 2641.11           | 2547.98                      | 0.790 | 3.58              | 3.68            | 6.464     | A   |
| 3   | 594.55                | 148.64                  | 593.49              | 933.77             | 1935.73                   | 0.00                       | 740.12            | 497.41                       | 0.803 | 3.54              | 3.81            | 24.166    | C   |
| 4   | 2583.00               | 645.75                  | 2544.65             | 2145.54            | 383.69                    | 0.00                       | 2590.98           | 2613.66                      | 0.997 | 23.91             | 33.49           | 46.605    | E   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 329.03                | 82.26                   | 335.16              | 258.26             | 2287.55                   | 0.00                       | 757.34            | 553.74                       | 0.434 | 2.31              | 0.78            | 8.647     | A   |
| 2   | 1702.67               | 425.67                  | 1710.64             | 1948.57            | 674.14                    | 0.00                       | 2721.44           | 2547.98                      | 0.626 | 3.68              | 1.69            | 3.591     | A   |
| 3   | 485.45                | 121.36                  | 496.14              | 793.63             | 1591.13                   | 0.00                       | 921.74            | 497.41                       | 0.527 | 3.81              | 1.13            | 8.662     | A   |
| 4   | 2109.01               | 527.25                  | 2226.19             | 1767.65            | 319.62                    | 0.00                       | 2634.20           | 2613.66                      | 0.801 | 33.49             | 4.20            | 11.396    | B   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 275.54                | 68.89                   | 277.17              | 209.43             | 1829.55                   | 0.00                       | 1014.79           | 553.73                       | 0.272 | 0.78              | 0.38            | 4.890     | A   |
| 2   | 1425.91               | 356.48                  | 1428.53             | 1561.76            | 544.96                    | 0.00                       | 2815.21           | 2547.98                      | 0.507 | 1.69              | 1.03            | 2.602     | A   |
| 3   | 406.54                | 101.63                  | 408.57              | 646.22             | 1327.27                   | 0.00                       | 1060.81           | 497.40                       | 0.383 | 1.13              | 0.63            | 5.537     | A   |
| 4   | 1766.20               | 441.55                  | 1775.09             | 1471.94            | 263.90                    | 0.00                       | 2671.78           | 2613.66                      | 0.661 | 4.20              | 1.98            | 4.053     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.32                           | 0.35                                 | 4.789                                  | A                             | A                           |
| 2   | 14.91                          | 0.99                                 | 2.569                                  | A                             | A                           |
| 3   | 8.86                           | 0.59                                 | 5.431                                  | A                             | A                           |
| 4   | 27.67                          | 1.84                                 | 3.902                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 9.47                           | 0.63                                 | 7.214                                  | A                             | A                           |
| 2   | 23.66                          | 1.58                                 | 3.447                                  | A                             | A                           |
| 3   | 15.46                          | 1.03                                 | 8.062                                  | A                             | A                           |
| 4   | 53.87                          | 3.59                                 | 6.602                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 27.18                          | 1.81                                 | 18.106                                 | C                             | B                           |
| 2   | 50.35                          | 3.36                                 | 6.214                                  | A                             | A                           |
| 3   | 45.93                          | 3.06                                 | 21.342                                 | C                             | C                           |
| 4   | 246.08                         | 16.41                                | 27.486                                 | D                             | C                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 33.29                          | 2.22                                 | 21.528                                 | C                             | C                           |
| 2   | 54.67                          | 3.64                                 | 6.464                                  | A                             | A                           |
| 3   | 55.57                          | 3.70                                 | 24.166                                 | C                             | C                           |
| 4   | 435.01                         | 29.00                                | 46.605                                 | E                             | D                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 12.53                          | 0.84                                 | 8.647                                  | A                             | A                           |
| 2   | 26.27                          | 1.75                                 | 3.591                                  | A                             | A                           |
| 3   | 18.62                          | 1.24                                 | 8.662                                  | A                             | A                           |
| 4   | 123.43                         | 8.23                                 | 11.396                                 | B                             | B                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.79                           | 0.39                                 | 4.890                                  | A                             | A                           |
| 2   | 15.81                          | 1.05                                 | 2.602                                  | A                             | A                           |
| 3   | 9.72                           | 0.65                                 | 5.537                                  | A                             | A                           |
| 4   | 30.89                          | 2.06                                 | 4.053                                  | A                             | A                           |

## Existing Layout - Background 2019, AM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, AM | Background 2019 | AM               |             | ONE HOUR             | 08:00                    | 09:30                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 15.56              | C            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 330.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1947.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 514.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 1723.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 08:00-08:15  | 1   | 248.44                            | 266.46                              |                                  |                                        |
| 08:00-08:15  | 2   | 1465.80                           | 1547.44                             |                                  |                                        |
| 08:00-08:15  | 3   | 386.97                            | 403.42                              |                                  |                                        |
| 08:00-08:15  | 4   | 1297.16                           | 1345.44                             |                                  |                                        |
| 08:15-08:30  | 1   | 296.66                            | 318.18                              |                                  |                                        |
| 08:15-08:30  | 2   | 1750.31                           | 1847.79                             |                                  |                                        |
| 08:15-08:30  | 3   | 462.08                            | 481.73                              |                                  |                                        |
| 08:15-08:30  | 4   | 1548.94                           | 1606.58                             |                                  |                                        |
| 08:30-08:45  | 1   | 363.34                            | 389.69                              |                                  |                                        |
| 08:30-08:45  | 2   | 2143.69                           | 2263.08                             |                                  |                                        |
| 08:30-08:45  | 3   | 565.92                            | 589.99                              |                                  |                                        |
| 08:30-08:45  | 4   | 1897.06                           | 1967.65                             |                                  |                                        |
| 08:45-09:00  | 1   | 363.34                            | 389.69                              |                                  |                                        |
| 08:45-09:00  | 2   | 2143.69                           | 2263.08                             |                                  |                                        |
| 08:45-09:00  | 3   | 565.92                            | 589.99                              |                                  |                                        |
| 08:45-09:00  | 4   | 1897.06                           | 1967.65                             |                                  |                                        |
| 09:00-09:15  | 1   | 296.66                            | 318.18                              |                                  |                                        |
| 09:00-09:15  | 2   | 1750.31                           | 1847.79                             |                                  |                                        |
| 09:00-09:15  | 3   | 462.08                            | 481.73                              |                                  |                                        |
| 09:00-09:15  | 4   | 1548.94                           | 1606.58                             |                                  |                                        |
| 09:15-09:30  | 1   | 248.44                            | 266.46                              |                                  |                                        |
| 09:15-09:30  | 2   | 1465.80                           | 1547.44                             |                                  |                                        |
| 09:15-09:30  | 3   | 386.97                            | 403.42                              |                                  |                                        |
| 09:15-09:30  | 4   | 1297.16                           | 1345.44                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      | To |         |          |         |          |
|------|----|---------|----------|---------|----------|
| From |    | 1       | 2        | 3       | 4        |
|      | 1  | 0.000   | 83.000   | 34.000  | 213.000  |
|      | 2  | 85.000  | 0.000    | 160.000 | 1702.000 |
|      | 3  | 87.000  | 216.000  | 0.000   | 211.000  |
|      | 4  | 105.000 | 1426.000 | 192.000 | 0.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      | To |      |      |      |      |
|------|----|------|------|------|------|
| From |    | 1    | 2    | 3    | 4    |
|      | 1  | 0.00 | 0.25 | 0.10 | 0.65 |
|      | 2  | 0.04 | 0.00 | 0.08 | 0.87 |
|      | 3  | 0.17 | 0.42 | 0.00 | 0.41 |
|      | 4  | 0.06 | 0.83 | 0.11 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.120 | 1.029 | 1.061 |
|      | 2  | 1.082 | 1.000 | 1.081 | 1.052 |
|      | 3  | 1.046 | 1.069 | 1.000 | 1.014 |
|      | 4  | 1.029 | 1.040 | 1.021 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      | To |     |      |     |     |
|------|----|-----|------|-----|-----|
|      |    | 1   | 2    | 3   | 4   |
| From | 1  | 0.0 | 12.0 | 2.9 | 6.1 |
|      | 2  | 8.2 | 0.0  | 8.1 | 5.2 |
|      | 3  | 4.6 | 6.9  | 0.0 | 1.4 |
|      | 4  | 2.9 | 4.0  | 2.1 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.42    | 7.26          | 0.73            | A       | 302.81                  | 454.22                        | 40.78                          | 5.39                       | 0.45                                 | 40.78                                    | 5.39                                 |
| 2   | 0.76    | 5.38          | 3.17            | A       | 1786.61                 | 2679.91                       | 168.58                         | 3.77                       | 1.87                                 | 168.59                                   | 3.77                                 |
| 3   | 0.99    | 93.32         | 14.45           | F       | 471.66                  | 707.48                        | 377.56                         | 32.02                      | 4.20                                 | 377.57                                   | 32.02                                |
| 4   | 0.75    | 5.60          | 2.91            | A       | 1581.06                 | 2371.59                       | 158.58                         | 4.01                       | 1.76                                 | 158.59                                   | 4.01                                 |

## Main Results for each time segment

### Main results: (08:00-08:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 248.44                | 62.11                   | 247.41              | 207.66             | 1375.93                   | 0.00                       | 1205.59           | 546.79                       | 0.206 | 0.00              | 0.26            | 3.754     | A   |
| 2   | 1465.81               | 366.45                  | 1461.81             | 1294.03            | 329.30                    | 0.00                       | 2925.36           | 2650.07                      | 0.501 | 0.00              | 1.00            | 2.454     | A   |
| 3   | 386.97                | 96.74                   | 384.18              | 289.73             | 1501.37                   | 0.00                       | 935.54            | 271.65                       | 0.414 | 0.00              | 0.70            | 6.497     | A   |
| 4   | 1297.17               | 324.29                  | 1293.29             | 1595.27            | 290.29                    | 0.00                       | 2628.81           | 2638.28                      | 0.493 | 0.00              | 0.97            | 2.688     | A   |



### Main results: (08:15-08:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 296.66                | 74.17                   | 296.15              | 248.33             | 1645.65                   | 0.00                       | 1058.74           | 546.79                       | 0.280 | 0.26              | 0.39            | 4.718     | A   |
| 2   | 1750.32               | 437.58                  | 1748.16             | 1547.75            | 394.04                    | 0.00                       | 2877.76           | 2650.07                      | 0.608 | 1.00              | 1.54            | 3.182     | A   |
| 3   | 462.08                | 115.52                  | 459.27              | 346.55             | 1795.65                   | 0.00                       | 783.41            | 271.65                       | 0.590 | 0.70              | 1.40            | 11.012    | B   |
| 4   | 1548.95               | 387.24                  | 1546.92             | 1907.85            | 347.06                    | 0.00                       | 2588.81           | 2638.28                      | 0.598 | 0.97              | 1.48            | 3.447     | A   |

### Main results: (08:30-08:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 363.34                | 90.83                   | 362.03              | 298.35             | 1999.15                   | 0.00                       | 866.47            | 546.79                       | 0.419 | 0.39              | 0.71            | 7.118     | A   |
| 2   | 2143.69               | 535.92                  | 2137.35             | 1879.43            | 481.76                    | 0.00                       | 2813.26           | 2650.07                      | 0.762 | 1.54              | 3.13            | 5.277     | A   |
| 3   | 565.92                | 141.48                  | 530.33              | 423.72             | 2195.38                   | 0.00                       | 576.78            | 271.65                       | 0.981 | 1.40              | 10.30           | 56.345    | F   |
| 4   | 1897.06               | 474.27                  | 1891.56             | 2319.77            | 405.94                    | 0.00                       | 2547.28           | 2638.28                      | 0.745 | 1.48              | 2.85            | 5.445     | A   |

### Main results: (08:45-09:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 363.34                | 90.83                   | 363.28              | 302.15             | 2012.06                   | 0.00                       | 859.33            | 546.79                       | 0.423 | 0.71              | 0.73            | 7.257     | A   |
| 2   | 2143.69               | 535.92                  | 2143.53             | 1892.07            | 483.28                    | 0.00                       | 2812.14           | 2650.07                      | 0.762 | 3.13              | 3.17            | 5.380     | A   |
| 3   | 565.92                | 141.48                  | 549.31              | 424.95             | 2201.86                   | 0.00                       | 573.42            | 271.65                       | 0.987 | 10.30             | 14.45           | 93.317    | F   |
| 4   | 1897.06               | 474.27                  | 1896.82             | 2333.78            | 417.39                    | 0.00                       | 2539.24           | 2638.28                      | 0.747 | 2.85              | 2.91            | 5.598     | A   |

### Main results: (09:00-09:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 296.66                | 74.17                   | 297.96              | 258.39             | 1675.64                   | 0.00                       | 1042.09           | 546.79                       | 0.285 | 0.73              | 0.40            | 4.847     | A   |
| 2   | 1750.32               | 437.58                  | 1756.71             | 1577.37            | 396.24                    | 0.00                       | 2876.14           | 2650.07                      | 0.609 | 3.17              | 1.57            | 3.235     | A   |
| 3   | 462.08                | 115.52                  | 513.84              | 348.28             | 1804.67                   | 0.00                       | 778.75            | 271.65                       | 0.593 | 14.45             | 1.51            | 16.273    | C   |
| 4   | 1548.95               | 387.24                  | 1554.44             | 1938.90            | 379.59                    | 0.00                       | 2565.98           | 2638.28                      | 0.604 | 2.91              | 1.54            | 3.579     | A   |

### Main results: (09:15-09:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 248.44                | 62.11                   | 249.00              | 209.31             | 1384.15                   | 0.00                       | 1201.08           | 546.79                       | 0.207 | 0.40              | 0.26            | 3.782     | A   |
| 2   | 1465.81               | 366.45                  | 1468.04             | 1301.98            | 331.17                    | 0.00                       | 2923.98           | 2650.07                      | 0.501 | 1.57              | 1.01            | 2.477     | A   |
| 3   | 386.97                | 96.74                   | 390.13              | 291.09             | 1508.12                   | 0.00                       | 932.05            | 271.65                       | 0.415 | 1.51              | 0.72            | 6.682     | A   |
| 4   | 1297.17               | 324.29                  | 1299.39             | 1604.17            | 294.07                    | 0.00                       | 2626.15           | 2638.28                      | 0.494 | 1.54              | 0.98            | 2.719     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (08:00-08:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 3.79                           | 0.25                                 | 3.754                                  | A                             | A                           |
| 2   | 14.65                          | 0.98                                 | 2.454                                  | A                             | A                           |
| 3   | 10.03                          | 0.67                                 | 6.497                                  | A                             | A                           |
| 4   | 14.19                          | 0.95                                 | 2.688                                  | A                             | A                           |

### Queueing Delay results: (08:15-08:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 5.68                           | 0.38                                 | 4.718                                  | A                             | A                           |
| 2   | 22.51                          | 1.50                                 | 3.182                                  | A                             | A                           |
| 3   | 19.72                          | 1.31                                 | 11.012                                 | B                             | B                           |
| 4   | 21.58                          | 1.44                                 | 3.447                                  | A                             | A                           |

### Queueing Delay results: (08:30-08:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.31                          | 0.69                                 | 7.118                                  | A                             | A                           |
| 2   | 44.43                          | 2.96                                 | 5.277                                  | A                             | A                           |
| 3   | 106.04                         | 7.07                                 | 56.345                                 | F                             | E                           |
| 4   | 40.61                          | 2.71                                 | 5.445                                  | A                             | A                           |

### Queueing Delay results: (08:45-09:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 10.82                          | 0.72                                 | 7.257                                  | A                             | A                           |
| 2   | 47.26                          | 3.15                                 | 5.380                                  | A                             | A                           |
| 3   | 187.80                         | 12.52                                | 93.317                                 | F                             | F                           |
| 4   | 43.35                          | 2.89                                 | 5.598                                  | A                             | A                           |

### Queueing Delay results: (09:00-09:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 6.18                           | 0.41                                 | 4.847                                  | A                             | A                           |
| 2   | 24.27                          | 1.62                                 | 3.235                                  | A                             | A                           |
| 3   | 42.73                          | 2.85                                 | 16.273                                 | C                             | B                           |
| 4   | 23.82                          | 1.59                                 | 3.579                                  | A                             | A                           |

### Queueing Delay results: (09:15-09:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.01                           | 0.27                                 | 3.782                                  | A                             | A                           |
| 2   | 15.46                          | 1.03                                 | 2.477                                  | A                             | A                           |
| 3   | 11.23                          | 0.75                                 | 6.682                                  | A                             | A                           |
| 4   | 15.03                          | 1.00                                 | 2.719                                  | A                             | A                           |

## Existing Layout - Background 2019, PM

### Data Errors and Warnings

| Severity | Area     | Item                        | Description                                                                                                      |
|----------|----------|-----------------------------|------------------------------------------------------------------------------------------------------------------|
| Warning  | Geometry | Arm 2 - Roundabout Geometry | Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution. |

### Analysis Set Details

| Name            | Roundabout Capacity Model | Description | Include In Report | Use Specific Demand Set(s) | Specific Demand Set (s) | Locked | Network Flow Scaling Factor (%) | Network Capacity Scaling Factor (%) | Reason For Scaling Factors |
|-----------------|---------------------------|-------------|-------------------|----------------------------|-------------------------|--------|---------------------------------|-------------------------------------|----------------------------|
| Existing Layout | ARCADY                    |             | ✓                 |                            |                         |        | 100.000                         | 100.000                             |                            |

## Demand Set Details

| Name                | Scenario Name   | Time Period Name | Description | Traffic Profile Type | Model Start Time (HH:mm) | Model Finish Time (HH:mm) | Model Time Period Length (min) | Time Segment Length (min) | Results For Central Hour Only | Single Time Segment Only | Locked | Run Automatically | Use Relationship | Rel |
|---------------------|-----------------|------------------|-------------|----------------------|--------------------------|---------------------------|--------------------------------|---------------------------|-------------------------------|--------------------------|--------|-------------------|------------------|-----|
| Background 2019, PM | Background 2019 | PM               |             | ONE HOUR             | 16:45                    | 18:15                     | 90                             | 15                        |                               |                          |        | ✓                 |                  |     |

# Junction Network

## Junctions

| Junction | Name                              | Junction Type | Arm Order | Grade Separated | Large Roundabout | Do Geometric Delay | Junction Delay (s) | Junction LOS |
|----------|-----------------------------------|---------------|-----------|-----------------|------------------|--------------------|--------------------|--------------|
| 113      | A12, Foxhall Road, Newbourne Road | Roundabout    | 1,2,3,4   |                 |                  |                    | 11.35              | B            |

## Junction Network Options

| Driving Side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

# Arms

## Arms

| Arm | Arm | Name           | Description |
|-----|-----|----------------|-------------|
| 1   | 1   | Newbourne Road |             |
| 2   | 2   | A12 (south)    |             |
| 3   | 3   | Foxhall Road   |             |
| 4   | 4   | A12 (north)    |             |

## Capacity Options

| Arm | Minimum Capacity (PCU/hr) | Maximum Capacity (PCU/hr) | Assume Flat Start Profile | Initial Queue (PCU) |
|-----|---------------------------|---------------------------|---------------------------|---------------------|
| 1   | 0.00                      | 99999.00                  |                           | 0.00                |
| 2   | 0.00                      | 99999.00                  |                           | 0.00                |
| 3   | 0.00                      | 99999.00                  |                           | 0.00                |
| 4   | 0.00                      | 99999.00                  |                           | 0.00                |

## Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | I' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit Only |
|-----|----------------------------------|---------------------|---------------------------------|----------------------|-----------------------------------|------------------------------------|-----------|
| 1   | 3.75                             | 10.12               | 13.22                           | 40.01                | 77.76                             | 6.50                               |           |
| 2   | 7.54                             | 10.60               | 40.15                           | 41.81                | 77.76                             | 7.50                               |           |
| 3   | 3.63                             | 6.89                | 12.28                           | 28.05                | 77.76                             | 7.50                               |           |
| 4   | 7.27                             | 10.48               | 9.35                            | 39.47                | 77.76                             | 7.50                               |           |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Arm | Enter slope and intercept directly | Entered slope | Entered intercept (PCU/hr) | Final Slope | Final Intercept (PCU/hr) |
|-----|------------------------------------|---------------|----------------------------|-------------|--------------------------|
| 1   |                                    | (calculated)  | (calculated)               | 0.561       | 2096.498                 |
| 2   |                                    | (calculated)  | (calculated)               | 0.746       | 3343.869                 |
| 3   |                                    | (calculated)  | (calculated)               | 0.511       | 1784.469                 |
| 4   |                                    | (calculated)  | (calculated)               | 0.685       | 2938.758                 |

*The slope and intercept shown above include any corrections and adjustments.*

## Traffic Flows

### Demand Set Data Options

| Default Vehicle Mix | Vehicle Mix Varies Over Time | Vehicle Mix Varies Over Turn | Vehicle Mix Varies Over Entry | Vehicle Mix Source | PCU Factor for a HV (PCU) | Default Turning Proportions | Estimate from entry/exit counts | Turning Proportions Vary Over Time | Turning Proportions Vary Over Turn | Turning Proportions Vary Over Entry |
|---------------------|------------------------------|------------------------------|-------------------------------|--------------------|---------------------------|-----------------------------|---------------------------------|------------------------------------|------------------------------------|-------------------------------------|
|                     |                              | ✓                            | ✓                             | HV Percentages     | 2.00                      |                             |                                 |                                    | ✓                                  | ✓                                   |

## Entry Flows

### General Flows Data

| Arm | Profile Type | Use Turning Counts | Average Demand Flow (Veh/hr) | Flow Scaling Factor (%) |
|-----|--------------|--------------------|------------------------------|-------------------------|
| 1   | ONE HOUR     | ✓                  | 346.00                       | 100.000                 |
| 2   | ONE HOUR     | ✓                  | 1778.00                      | 100.000                 |
| 3   | ONE HOUR     | ✓                  | 510.00                       | 100.000                 |
| 4   | ONE HOUR     | ✓                  | 2177.00                      | 100.000                 |

# Direct/Resultant Flows

## Direct Flows Data

| Time Segment | Arm | Direct Demand Entry Flow (Veh/hr) | DirectDemandEntryFlowInPCU (PCU/hr) | Direct Demand Exit Flow (Veh/hr) | Direct Demand Pedestrian Flow (Ped/hr) |
|--------------|-----|-----------------------------------|-------------------------------------|----------------------------------|----------------------------------------|
| 16:45-17:00  | 1   | 260.49                            | 267.30                              |                                  |                                        |
| 16:45-17:00  | 2   | 1338.57                           | 1386.43                             |                                  |                                        |
| 16:45-17:00  | 3   | 383.95                            | 389.22                              |                                  |                                        |
| 16:45-17:00  | 4   | 1638.96                           | 1682.90                             |                                  |                                        |
| 17:00-17:15  | 1   | 311.05                            | 319.19                              |                                  |                                        |
| 17:00-17:15  | 2   | 1598.39                           | 1655.54                             |                                  |                                        |
| 17:00-17:15  | 3   | 458.48                            | 464.76                              |                                  |                                        |
| 17:00-17:15  | 4   | 1957.08                           | 2009.55                             |                                  |                                        |
| 17:15-17:30  | 1   | 380.95                            | 390.92                              |                                  |                                        |
| 17:15-17:30  | 2   | 1957.61                           | 2027.61                             |                                  |                                        |
| 17:15-17:30  | 3   | 561.52                            | 569.21                              |                                  |                                        |
| 17:15-17:30  | 4   | 2396.92                           | 2461.18                             |                                  |                                        |
| 17:30-17:45  | 1   | 380.95                            | 390.92                              |                                  |                                        |
| 17:30-17:45  | 2   | 1957.61                           | 2027.61                             |                                  |                                        |
| 17:30-17:45  | 3   | 561.52                            | 569.21                              |                                  |                                        |
| 17:30-17:45  | 4   | 2396.92                           | 2461.18                             |                                  |                                        |
| 17:45-18:00  | 1   | 311.05                            | 319.19                              |                                  |                                        |
| 17:45-18:00  | 2   | 1598.39                           | 1655.54                             |                                  |                                        |
| 17:45-18:00  | 3   | 458.48                            | 464.76                              |                                  |                                        |
| 17:45-18:00  | 4   | 1957.08                           | 2009.55                             |                                  |                                        |
| 18:00-18:15  | 1   | 260.49                            | 267.30                              |                                  |                                        |
| 18:00-18:15  | 2   | 1338.57                           | 1386.43                             |                                  |                                        |
| 18:00-18:15  | 3   | 383.95                            | 389.22                              |                                  |                                        |
| 18:00-18:15  | 4   | 1638.96                           | 1682.90                             |                                  |                                        |

# Turning Proportions

## Turning Counts / Proportions (Veh/hr) - Junction 113 (for whole period)

|      |   | To      |          |         |          |
|------|---|---------|----------|---------|----------|
| From |   | 1       | 2        | 3       | 4        |
|      | 1 | 1.000   | 87.000   | 86.000  | 172.000  |
|      | 2 | 62.000  | 0.000    | 303.000 | 1413.000 |
|      | 3 | 48.000  | 218.000  | 0.000   | 244.000  |
|      | 4 | 150.000 | 1615.000 | 409.000 | 3.000    |

## Turning Proportions (Veh) - Junction 113 (for whole period)

|      |   | To   |      |      |      |
|------|---|------|------|------|------|
| From |   | 1    | 2    | 3    | 4    |
|      | 1 | 0.00 | 0.25 | 0.25 | 0.50 |
|      | 2 | 0.03 | 0.00 | 0.17 | 0.79 |
|      | 3 | 0.09 | 0.43 | 0.00 | 0.48 |
|      | 4 | 0.07 | 0.74 | 0.19 | 0.00 |

# Vehicle Mix

## Average PCU Per Vehicle - Junction 113 (for whole period)

|      | To |       |       |       |       |
|------|----|-------|-------|-------|-------|
|      |    | 1     | 2     | 3     | 4     |
| From | 1  | 1.000 | 1.023 | 1.000 | 1.041 |
|      | 2  | 1.016 | 1.000 | 1.020 | 1.040 |
|      | 3  | 1.021 | 1.014 | 1.000 | 1.012 |
|      | 4  | 1.047 | 1.030 | 1.007 | 1.000 |

## Heavy Vehicle Percentages - Junction 113 (for whole period)

|      | To |     |     |     |     |
|------|----|-----|-----|-----|-----|
|      |    | 1   | 2   | 3   | 4   |
| From | 1  | 0.0 | 2.3 | 0.0 | 4.1 |
|      | 2  | 1.6 | 0.0 | 2.0 | 4.0 |
|      | 3  | 2.1 | 1.4 | 0.0 | 1.2 |
|      | 4  | 4.7 | 3.0 | 0.7 | 0.0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS | Average Demand (Veh/hr) | Total Junction Arrivals (Veh) | Total Queueing Delay (Veh-min) | Average Queueing Delay (s) | Rate Of Queueing Delay (Veh-min/min) | Inclusive Total Queueing Delay (Veh-min) | Inclusive Average Queueing Delay (s) |
|-----|---------|---------------|-----------------|---------|-------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------------------|------------------------------------------|--------------------------------------|
| 1   | 0.58    | 12.81         | 1.33            | B       | 317.50                  | 476.25                        | 62.41                          | 7.86                       | 0.69                                 | 62.42                                    | 7.86                                 |
| 2   | 0.73    | 4.92          | 2.65            | A       | 1631.53                 | 2447.30                       | 143.74                         | 3.52                       | 1.60                                 | 143.74                                   | 3.52                                 |
| 3   | 0.70    | 14.55         | 2.22            | B       | 467.99                  | 701.98                        | 104.76                         | 8.95                       | 1.16                                 | 104.77                                   | 8.95                                 |
| 4   | 0.92    | 15.68         | 9.91            | C       | 1997.65                 | 2996.48                       | 392.95                         | 7.87                       | 4.37                                 | 392.98                                   | 7.87                                 |

## Main Results for each time segment

### Main results: (16:45-17:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 260.49                | 65.12                   | 259.26              | 195.75             | 1683.53                   | 0.00                       | 1100.85           | 555.94                       | 0.237 | 0.00              | 0.31            | 4.271     | A   |
| 2   | 1338.58               | 334.64                  | 1335.08             | 1439.71            | 503.08                    | 0.00                       | 2860.95           | 2560.76                      | 0.468 | 0.00              | 0.87            | 2.355     | A   |
| 3   | 383.96                | 95.99                   | 381.86              | 598.72             | 1239.43                   | 0.00                       | 1110.86           | 499.55                       | 0.346 | 0.00              | 0.52            | 4.924     | A   |
| 4   | 1638.96               | 409.74                  | 1632.81             | 1374.82            | 246.47                    | 0.00                       | 2695.06           | 2623.94                      | 0.608 | 0.00              | 1.54            | 3.370     | A   |

### Main results: (17:00-17:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 311.05                | 77.76                   | 310.25              | 234.11             | 2013.22                   | 0.00                       | 916.33            | 555.94                       | 0.339 | 0.31              | 0.51            | 5.933     | A   |
| 2   | 1598.39               | 399.60                  | 1596.56             | 1721.75            | 601.72                    | 0.00                       | 2788.90           | 2560.77                      | 0.573 | 0.87              | 1.33            | 3.016     | A   |
| 3   | 458.48                | 114.62                  | 457.13              | 715.98             | 1482.28                   | 0.00                       | 983.60            | 499.55                       | 0.466 | 0.52              | 0.86            | 6.819     | A   |
| 4   | 1957.08               | 489.27                  | 1952.35             | 1644.43            | 294.99                    | 0.00                       | 2662.19           | 2623.94                      | 0.735 | 1.54              | 2.72            | 5.037     | A   |

### Main results: (17:15-17:30)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 380.95                | 95.24                   | 377.95              | 284.92             | 2445.59                   | 0.00                       | 674.37            | 555.94                       | 0.565 | 0.51              | 1.26            | 12.026    | B   |
| 2   | 1957.62               | 489.41                  | 1952.52             | 2091.88            | 731.65                    | 0.00                       | 2693.97           | 2560.76                      | 0.727 | 1.33              | 2.61            | 4.821     | A   |
| 3   | 561.52                | 140.38                  | 556.38              | 872.15             | 1812.01                   | 0.00                       | 810.82            | 499.55                       | 0.693 | 0.86              | 2.15            | 13.878    | B   |
| 4   | 2396.92               | 599.23                  | 2371.12             | 2009.02            | 359.37                    | 0.00                       | 2618.58           | 2623.94                      | 0.915 | 2.72              | 9.17            | 13.352    | B   |

### Main results: (17:30-17:45)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 380.95                | 95.24                   | 380.68              | 287.13             | 2468.90                   | 0.00                       | 661.31            | 555.94                       | 0.576 | 1.26              | 1.33            | 12.807    | B   |
| 2   | 1957.62               | 489.41                  | 1957.47             | 2111.58            | 738.02                    | 0.00                       | 2689.32           | 2560.76                      | 0.728 | 2.61              | 2.65            | 4.917     | A   |
| 3   | 561.52                | 140.38                  | 561.24              | 877.97             | 1817.51                   | 0.00                       | 807.93            | 499.55                       | 0.695 | 2.15              | 2.22            | 14.554    | B   |
| 4   | 2396.92               | 599.23                  | 2393.96             | 2016.68            | 362.08                    | 0.00                       | 2616.74           | 2623.94                      | 0.916 | 9.17              | 9.91            | 15.677    | C   |

### Main results: (17:45-18:00)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 311.05                | 77.76                   | 314.22              | 237.27             | 2046.78                   | 0.00                       | 897.55            | 555.94                       | 0.347 | 1.33              | 0.54            | 6.205     | A   |
| 2   | 1598.39               | 399.60                  | 1603.53             | 1750.06            | 610.93                    | 0.00                       | 2782.17           | 2560.77                      | 0.575 | 2.65              | 1.36            | 3.069     | A   |
| 3   | 458.48                | 114.62                  | 463.77              | 724.36             | 1490.10                   | 0.00                       | 979.51            | 499.55                       | 0.468 | 2.22              | 0.89            | 7.049     | A   |
| 4   | 1957.08               | 489.27                  | 1985.33             | 1655.17            | 298.71                    | 0.00                       | 2659.67           | 2623.94                      | 0.736 | 9.91              | 2.85            | 5.553     | A   |

### Main results: (18:00-18:15)

| Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Entry Flow (Veh/hr) | Exit Flow (Veh/hr) | Circulating Flow (Veh/hr) | Pedestrian Demand (Ped/hr) | Capacity (Veh/hr) | Saturation Capacity (Veh/hr) | RFC   | Start Queue (Veh) | End Queue (Veh) | Delay (s) | LOS |
|-----|-----------------------|-------------------------|---------------------|--------------------|---------------------------|----------------------------|-------------------|------------------------------|-------|-------------------|-----------------|-----------|-----|
| 1   | 260.49                | 65.12                   | 261.37              | 197.05             | 1695.51                   | 0.00                       | 1094.14           | 555.94                       | 0.238 | 0.54              | 0.31            | 4.327     | A   |
| 2   | 1338.58               | 334.64                  | 1340.48             | 1450.09            | 506.79                    | 0.00                       | 2858.24           | 2560.76                      | 0.468 | 1.36              | 0.89            | 2.374     | A   |
| 3   | 383.96                | 95.99                   | 385.39              | 602.28             | 1244.98                   | 0.00                       | 1107.95           | 499.55                       | 0.347 | 0.89              | 0.53            | 4.993     | A   |
| 4   | 1638.96               | 409.74                  | 1644.07             | 1381.87            | 248.50                    | 0.00                       | 2693.69           | 2623.94                      | 0.608 | 2.85              | 1.57            | 3.448     | A   |

## Queueing Delay Results for each time segment

### Queueing Delay results: (16:45-17:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.51                           | 0.30                                 | 4.271                                  | A                             | A                           |
| 2   | 12.86                          | 0.86                                 | 2.355                                  | A                             | A                           |
| 3   | 7.62                           | 0.51                                 | 4.924                                  | A                             | A                           |
| 4   | 22.30                          | 1.49                                 | 3.370                                  | A                             | A                           |

### Queueing Delay results: (17:00-17:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 7.42                           | 0.49                                 | 5.933                                  | A                             | A                           |
| 2   | 19.54                          | 1.30                                 | 3.016                                  | A                             | A                           |
| 3   | 12.47                          | 0.83                                 | 6.819                                  | A                             | A                           |
| 4   | 38.94                          | 2.60                                 | 5.037                                  | A                             | A                           |

### Queueing Delay results: (17:15-17:30)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 17.69                          | 1.18                                 | 12.026                                 | B                             | B                           |
| 2   | 37.36                          | 2.49                                 | 4.821                                  | A                             | A                           |
| 3   | 29.48                          | 1.97                                 | 13.878                                 | B                             | B                           |
| 4   | 115.61                         | 7.71                                 | 13.352                                 | B                             | B                           |

### Queueing Delay results: (17:30-17:45)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 19.59                          | 1.31                                 | 12.807                                 | B                             | B                           |
| 2   | 39.48                          | 2.63                                 | 4.917                                  | A                             | A                           |
| 3   | 32.84                          | 2.19                                 | 14.554                                 | B                             | B                           |
| 4   | 144.11                         | 9.61                                 | 15.677                                 | C                             | B                           |

### Queueing Delay results: (17:45-18:00)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 8.37                           | 0.56                                 | 6.205                                  | A                             | A                           |
| 2   | 20.98                          | 1.40                                 | 3.069                                  | A                             | A                           |
| 3   | 14.10                          | 0.94                                 | 7.049                                  | A                             | A                           |
| 4   | 47.72                          | 3.18                                 | 5.553                                  | A                             | A                           |

### Queueing Delay results: (18:00-18:15)

| Arm | Queueing Total Delay (Veh-min) | Queueing Rate Of Delay (Veh-min/min) | Average Delay Per Arriving Vehicle (s) | Unsignalised Level Of Service | Signalised Level Of Service |
|-----|--------------------------------|--------------------------------------|----------------------------------------|-------------------------------|-----------------------------|
| 1   | 4.83                           | 0.32                                 | 4.327                                  | A                             | A                           |
| 2   | 13.52                          | 0.90                                 | 2.374                                  | A                             | A                           |
| 3   | 8.25                           | 0.55                                 | 4.993                                  | A                             | A                           |
| 4   | 24.27                          | 1.62                                 | 3.448                                  | A                             | A                           |