ENVIRONMENTAL STATEMENT ADDENDUM APPENDIX P

PENRHOS LEISURE VILLAGE AND RESIDENTIAL DEVELOPMENT, PENRHOS, HOLYHEAD

TECHNICAL NOTE 1 – CONSULTATION RESPONSES

BY CURTINS CONSULTING LIMITED

MARCH 2013

Control Sheet

Client:	Land and Lakes (Anglesey) Ltd
Project:	Proposed Leisure Village and Residential Development, Penrhos, Holyhead
Report Type:	Technical Note 1
Report Reference:	TN1
Revision:	
Report Status:	**Final Rev A**
Date:	March 2013

Report Author(s)		**Date**
Alex Vogt Senior Engineer	[redacted]	8th March 2013

Checked	**Signature**	**Date**
Keith York Associate	[redacted]	8th March 2013

Authorised	**Signature**	**Date**
Keith York Associate	[redacted]	8th March 2013

For and on behalf of **Curtins Consulting Ltd**

Contents

1.0 Introduction

Introduction

11.1 Curtins has been appointed by Land and Lakes (Anglesey) Ltd to provide all traffic and transportation advice in relation to an outline application for a mixed leisure, nuclear workers accommodation and residential development at three separate but interrelated sites at Penrhos, Holyhead, Anglesey.

11.2 The application was submitted in November 2012 and on the 25th January 2013 Curtins received detailed comments from Isle of Anglesey County Council (IOACC) and UK Highways A55 Ltd in the form of a report prepared by Mott MacDonald, along with a letter produced by Welsh Government (WG).

11.3 The report concludes that:

"whilst no critical issues have been identified in the review of the TA, there are a number of potentially significant issues that need to be addressed before the TA can be considered acceptable."

11.4 The twenty five observations are set out in Section 4 of the Mott MacDonald report and this Technical Note seeks to provide clarity on each of the points raised.

11.5 The remainder of this report is split into sections that mirror the sub-headings contained in Section 4 of the Mott MacDonald Report. Curtins' response is provided under each comment.

Schedule of Accommodation

11.6 Shortly before the application was submitted there were a number of changes to the development mix. This resulted in the number of lodges at the Penrhos site reducing from 563 to 500, the number of lodges at Cae Glas changing from 295 to 315, the number of dwellings at Kingsland reducing from 400 to 360, and the number of hotel rooms at Cae Glas changing from 120 to 75.

11.7 These changes were incorporated into the development descriptions submitted as part of the application, but the traffic models were not revised prior to the submission of the TA. All future assessments detailed within this consultation response now reflect the schedule of accommodation as detailed on the planning application forms.

Parc Cybi Committed Development

11.8 During scoping discussions, Curtins was provided with extracts of the Parc Cybi Transport Assessment. This information potentially contains an error as it contained two very different forecasts for the amount of traffic the development may generate as summarised below:

	Parc Cybi TA Figures		Parc Cybi TA Text	
	AM Peak Period	**PM Peak Period**	**AM Peak Period**	**PM Peak Period**
Arrivals	1195	435	765	404
Departures	295	1096	176	862
Total	1490	1531	941	1266

11.9 Due to current economic conditions, the reality is that Parc Cybi is highly unlikely to come forwards in its originally proposed form with so much B1 (office) land use, and given that B1 is the most significant traffic generating element, this would strongly indicate that even using the lower predicted overall generation for Parc Cybi could be considered to be excessive.

11.10 Notwithstanding the above, in order to consider which level of traffic generation contained within the Parc Cybi TA is the most realistic forecast, Curtins carried out a sensitivity test using the current version of TRICS. The results are summarised in Appendix A and these clearly validate the lower set of traffic generation figures quoted in the Parc Cybi TA.

11.11 It is therefore considered that the higher Parc Cybi generation figures were erroneously included in their TA and on reflection should not have been used in Curtins previous assessment. We suggest the lower figures contained in the Parc Cybi TA text should therefore be used in any sensitivity tests that may be undertaken.

11.12 This approach is supported by Welsh Government which provided an email on the 21st February 2013 confirming that the lower set of traffic generation figures quoted in the Parc Cybi TA should be used in any sensitivity tests. Discussions with IoACC have also confirmed that this approach is acceptable.

2.0 Development Proposals

2.1 *Paragraph 3.12 states that the Cae Glas site will be assessed in consideration of its permanent use rather than the 'temporary' workers accommodation. We do note that IoACC/WG requested that supporting information be provided to justify this.* ***We suggest that the applicant be requested to demonstrate that the leisure use of the Cae Glas site will be the higher generating use, in terms of trip generation, and justify why the workers accommodation scenario has not been assessed.***

Curtins Response:

Curtins suggests that it is actually the cumulative impact of the proposed leisure use at Cae Glas plus the Parc Cybi committed development which should be demonstrated is the higher traffic generator in comparison to the potential interim traffic generation associated with the Wylfa workers.

The Transport Assessment demonstrated that the Cae Glas site would generate approximately 99 two-way movements in the AM peak period, 90 two-way movements in the PM peak period and 87 two-way movements in the Saturday peak period.

In addition to the above traffic, Curtins' consideration of the permanent situation includes the Parc Cybi development in its fully built form. This may generate 941 two-way trips in the AM peak period and 1266 two-way trips in the PM peak period.

In comparison, prior to the above developments coming forward in their completed form; one third of the Wylfa workforce could be located at the Cae Glas site during the construction period. This equates to approximately 2000 workers.

It is envisaged that these workers will travel to the Wylfa site at the start and end of every shift via coach. Initial information indicates that there could be three shifts per day and each shift would be transported by approximately 15 coaches. Furthermore, it is envisaged that coach movements will be managed so that they do not coincide with peak network periods.

It is acknowledged that these workers may arrive at the Cae Glas at the start of the week in a relatively brief period of time i.e. between 1500 and 2200 hours on a Sunday evening. However, the traffic on the County roads would clearly be outside of the peak network hours and outside of the hours when Parc Cybi generates the most amount of traffic.

Movements associated with the Wylfa workers will be low at all other times as extensive facilities will be provided on site to ensure that the workers are relatively self-contained. This includes a canteen, laundry, shops, bars, leisure opportunities etc. However, for essential trips to the surrounding area it is envisaged that the coaches will be used to provide connections to the railway station, ferry terminal and key destinations such as the foodstore and town centre.

On the above basis, it is considered that the traffic generated by the leisure development and Parc Cybi during any peak hour period is far more onerous that the traffic generated by the Wylfa workers.

2.2 *(L) Paragraphs 3.28 to 3.35: Parking provision – We note that no reference appears to be made to what provision will be made for staff parking.* ***We suggest that the applicant be requested to confirm the number of employees that are estimated to be located at each site and what level of parking provision will be provided.***

Curtins Response:

It is understood that the development of the three sites could result in 600 full time equivalent jobs. Parking at each site will be provided in accordance with the maximum parking standards contained in the SPG and therefore it is envisaged that there will be sufficient parking for employees. Furthermore, there will be an opportunity to demonstrate and agree parking provision as part of the reserved matters application.

2.3 *(L) Paragraph 3.33 states that 100 parking spaces will be allocated to the 120-bed hotel on the Cae Glas site. It is considered that this level of parking is not sufficient for the number of beds proposed.* ***We suggest that the applicant be requested to increase the hotel parking to a higher level of provision.***

Curtins Response:

As stated in the introduction of this Technical Note the correct number of hotel rooms actually being applied for at Cae Glas is 75. Parking will be provided for these uses in accordance with the maximum standards.

3.0 Accessibility

3.1 *(L) General – Whilst reference is made in this section to the accessibility of the three sites for users and visitors, only a passing reference is made to the accessibility of the sites in relation to staff and employees.* ***We suggest that when the TIS is developed in detail, more consideration be given to providing for and encouraging employee movements by non-car modes.***

Curtins Response:

Curtins is aware that the development of a full Travel Plan and Transport Implementation Strategy are likely to be conditioned as part of any planning consent. These documents will provide more detail on staff travel and the measures that will be implemented to encourage travel by more sustainable modes.

3.2 *(L) Paragraph 5.29 refers to the realignment of cycle route 8 that runs through the proposed Penrhos site.* ***There does not appear to be a proposal in the TA of where the cycle route would be re-provided. We suggest this be confirmed by the applicant.***

Curtins Response:

The application is seeking outline consent and as a result the internal layout will be finalised as part of a reserved matters application at a later date. This will include realignment of cycle route 8, which is hoped at this stage can continue to run through the Penrhos site.

In addition to the above, a shared cycleway has been constructed adjacent to the A5 which enhances cycle connectivity between Holyhead, the Holy Island and the rest of Anglesey.

4.0 Traffic Forecasting

4.1 *Paragraph 7.5 states that the peak periods associated with the leisure sites will be between 09:00 and 11:00 and 15:00 to 22:00. We note that these peak periods do not seem to mirror the peak periods shown in the TRICS database for this type of site.* ***This could result in the peak period of this scheme using non-peak trip rates from TRICS and therefore under-estimating the trip generation.***

Curtins Response:

The time periods quoted in the Transport Assessment were provided by Land and Lakes (Anglesey) Ltd. The peaks are based on a business model whereby people check-out between 0900 and 1100 hours and check-in any time after 3pm.

Notwithstanding the above, the Transport Assessment considers the cumulative peak period identified from traffic surveys and peak committed development activity and not the peak period of the site. The network peak periods occur between:

- 0830 and 0930 (AM peak period);
- 1545 to 1645 (PM peak period); and
- 1215 to 1315 (Saturday peak period).

The network peaks which we have considered are particularly robust as the AM and PM assessments include consideration of all the Parc Cybi committed development. This equates to 1490 AM peak movements and 1531 PM peak movements.

A mid-morning network assessment may indicate that the leisure sites generate marginally more traffic than they do in the peaks considered, but there will be a dramatic reduction in the number of vehicles associated with the Parc Cybi development and therefore overall flows would be significantly lower during a mid-morning peak.

It is considered that the AM and PM network peaks have been assessed in a robust manner and (particularly due to Parc Cybi) assessments at any other time of the day will have significantly combined lower flows.

With regards to the Saturday peak period, Parc Cybi will not generate a significant quantum of traffic and the flows traffic generated by the leisure development and any increase in background traffic will be substantially less than other network peak periods. This is confirmed by local ATC data (see below table) which indicates

that the two-way flow on the A5 is lower during the Saturday peak period than it is during the Weekday PM peak period.

Table 4.1 – Comparison of Weekday PM Peak and Saturday Peak (A5 ATC Data)

Two-Way Movements Friday 19th August 2011 (1600 to 1700)	Two-Way Movements Friday 26th August 2011 (1600 to 1700)	Two-Way Movements Saturday 20th August 2011 (1200 to 1300)	Two-Way Movements Saturday 27th August 2011 (1200 to 1300)
702	733	630	675

5.0 Future Baseline Traffic Flows

5.1 *Paragraph 7.14 sets out the assessment scenarios and states that a "year of application (2012) and ten years after the application (2022) have been assessed.* ***We suggest therefore that the applicant be requested to confirm when the year of opening of the scheme will be and to undertake a sensitivity assessment of that opening year. The applicant should also review whether the 2022 design year assessment needs to be repeated to reflect IoACC's and WG's requirement for a +10 year after opening assessment.***

Curtins Response:

Curtins understands that there may be some confusion regarding some of the terms used within the TA. For clarity, the 2012 assessment should be referred to as the 'base' scenario and the 2022 scenario is effectively the 'opening year' scenario.

Based on information received from Land and Lakes (Anglesey) Limited, parts of the Penrhos holiday village and Kingsland residential development are forecast to open as early as 2015/2016. However, the full development may not be complete until 2022.

With regard to assessing a forecast future year of 10 years after opening, Curtins' TA has assumed a robust approach whereby the entire development proposals plus the committed Parc Cybi site is fully built out by 2022 (albeit that Parc Cybi is highly unlikely to come forwards in its originally proposed form). Therefore the only difference in traffic flows between 2022 and 2032 would relate to background growth.

Tools such as TEMPRO and NTM can be used to predict growth 19 years into the future but it should be borne in mind that these tools merely provide a forecast and therefore may not be representative of true future growth, especially as decreases in traffic levels have occurred in some areas over the last five years.

Notwithstanding the above, Curtins has revisited the TEMPRO and NTM figures and calculated the background traffic growth for an assessment year of 2032.The results are summarised below in Table 5.1:

Table 5.1 – Revised Growth Rates

Base	Future	Level	Area	AM	PM	SAT	All
2011	2022	00NA1	Holyhead	1.043	1.048	1.052	1.061
2011	2032	00NA1	Holyhead	1.154	1.159	1.165	1.169

5.0 Future Baseline Traffic Flows

The results indicate that there is likely to be an additional 11% of growth in the AM and PM peak periods between 2022 and 2032. During the Saturday peak period there is expected to be an increase of approximately 10%. When these increases are applied to the observed flows (which are relatively low in most cases) the additional traffic generated by the extra growth is not considered to be significant.

Nonetheless, a sensitivity test has been undertaken for the junctions that the Transport Assessment indicates are particularly sensitive to change. This sensitivity test has been undertaken in line with comments received from Welsh Government on the 21st February 2013 and on this basis it:

- Considers a future year of 2032;
- Applies 85th percentile trip rates for the residential and hotel element of the proposals;
- Does not freeze planning assumptions beyond 2012;
- Assumes 100% of traffic travelling to the Penrhos site uses Junction 3 of the A55 and the Valley signalised junction; and
- Assumes 100% of traffic travelling to and from Cae Glas utilises Junction 2 of the M55;

The results of the sensitivity test are summarised below:

A55 Junction 2 – Sensitivity Test

Base+Committed 2032						
Arm	AM Peak		PM Peak		Saturday Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Eastern Dumb-bell - A5153 East	0.41	0.69	0.60	1.49	0.40	0.67
Eastern Dumb-bell - A5153 Bridge	0.25	0.32	0.52	1.09	0.23	0.30
Eastern Dumb-bell - A55 S/B Off-slip	0.26	0.35	0.55	1.22	0.29	0.42
Western Dumb-bell - A5153 Bridge	0.22	0.27	0.24	0.32	0.17	0.21
Western Dumb-bell - A55 N/B Off-slip	0.57	1.30	0.49	0.96	0.31	0.45
Western Dumb-bell - A5153 West	0.23	0.31	0.68	2.15	0.15	0.17
Base+Committed+Development 2032						
Arm	AM Peak		PM Peak		Saturday Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Eastern Dumb-bell - A5153 East	0.44	0.78	0.65	1.85	0.43	0.76
Eastern Dumb-bell - A5153 Bridge	0.31	0.45	0.57	1.30	0.27	0.37
Eastern Dumb-bell - A55 S/B Off-slip	0.28	0.38	0.59	1.42	0.31	0.44
Western Dumb-bell - A5153 Bridge	0.22	0.29	0.26	0.35	0.19	0.23
Western Dumb-bell - A55 N/B Off-slip	0.64	1.74	0.59	1.46	0.38	0.61
Western Dumb-bell - A5153 West	0.33	0.49	0.75	2.98	0.21	0.27

5.0 Future Baseline Traffic Flows

The results indicate that the junction is predicted to operate well within capacity during all three peak periods. It is clear that the additional background traffic, the use of 85th percentile trip rates, and the routing of all Cae Glas traffic through the junction would not have a material impact.

A5153/Kingsland Road Roundabout – Sensitivity Test

Base+Committed 2032						
Arm	AM Peak		PM Peak		Saturday Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
4. Kingsland Road/A5153 - A5153	0.12	0.13	0.31	0.45	0.15	0.18
4. Kingsland Road/A5153 - Kingsland Road (S)	0.28	0.39	0.26	0.35	0.18	0.22
4. Kingsland Road/A5153 - Access	0.04	0.04	0.10	0.11	0.07	0.07
4. Kingsland Road/A5153 - Kingsland Road (N)	0.16	0.19	0.19	0.23	0.16	0.20
5. A5153/Parc Cybi - A5153 (E)	0.59	1.43	0.44	0.80	0.17	0.21
5. A5153/Parc Cybi - Parc Cybi	0.15	0.17	0.71	2.44	0.01	0.01
5. A5153/Parc Cybi - A5153 (W)	0.25	0.34	0.26	0.34	0.12	0.13
5. A5153/Parc Cybi - Stub	0	0	0	0	0	0
Base+Committed+Development 2032						
Arm	AM Peak		PM Peak		Saturday Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
4. Kingsland Road/A5153 - A5154	0.14	0.17	0.37	0.59	0.20	0.24
4. Kingsland Road/A5153 - Kingsland Road (S)	0.36	0.57	0.32	0.46	0.24	0.31
4. Kingsland Road/A5153 - Access	0.04	0.04	0.10	0.11	0.07	0.08
4. Kingsland Road/A5153 - Kingsland Road (N)	0.18	0.22	0.21	0.27	0.18	0.23
5. A5153/Parc Cybi - A5153 (E)	0.65	1.88	0.54	1.18	0.24	0.32
5. A5153/Parc Cybi - Parc Cybi	0.18	0.22	0.77	3.21	0.03	0.03
5. A5153/Parc Cybi - A5153 (W)	0.32	0.46	0.31	0.44	0.16	0.18
5. A5153/Parc Cybi - Stub	0	0	0	0	0	0

The A5153/Kingsland roundabout is predicted to operate well within capacity during all three peak periods. Furthermore, the results demonstrate that the additional background traffic, the use of 85th percentile trip rates would not have a material impact.

5.0 Future Baseline Traffic Flows

A55 Junction 3 – Sensitivity Test

Base+Committed 2032						
Arm	AM Peak		PM Peak		Saturday Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Southern Dumb-bell - A55 W/B Off-slip	0.15	0.18	0.25	0.33	0.20	0.25
Southern Dumb-bell - Holyhead Road South	0.20	0.24	0.24	0.32	0.12	0.13
Southern Dumb-bell - A55 W/B On-slip	0	0	0	0	0	0
Southern Dumb-bell - A5 Bridge	0.22	0.29	0.17	0.21	0.11	0.12
Northern Dumb-bell - A5 Bridge	0.32	0.47	0.47	0.87	0.33	0.48
Northern Dumb-bell - A55 E/B Off-slip	0.07	0.07	0.06	0.06	0.04	0.04
Northern Dumb-bell - A5 Holyhead Road North	0.40	0.66	0.43	0.76	0.32	0.46
Base+Committed+Development 2032						
Arm	AM Peak		PM Peak		Saturday Peak	
	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)
Southern Dumb-bell - A55 W/B Off-slip	0.18	0.21	0.28	0.40	0.22	0.29
Southern Dumb-bell - Holyhead Road South	0.20	0.25	0.25	0.33	0.12	0.13
Southern Dumb-bell - A55 W/B On-slip	0	0	0	0	0	0
Southern Dumb-bell - A5 Bridge	0.22	0.29	0.17	0.21	0.11	0.12
Northern Dumb-bell - A5 Bridge	0.35	0.54	0.52	1.05	0.36	0.56
Northern Dumb-bell - A55 E/B Off-slip	0.07	0.07	0.06	0.06	0.04	0.04
Northern Dumb-bell - A5 Holyhead Road North	0.45	0.80	0.47	0.87	0.34	0.52

The modelling results indicate that the junction will operate well within capacity during all peak periods. The additional background traffic, the use of 85th percentile trip rates and the routing of all Penrhos traffic through the junction would not have a material impact.

A5/A5025 Signals – Sensitivity Test

2032 Base+Committed							
Ref.	Lane Description	AM Peak		PM Peak		Saturday Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/2+1/1	A5025 Left Ahead Right	59.40%	4.8	86.20%	7	59.10%	3.7
2/1	A5 South Right Left Ahead	61.30%	6.3	88.00%	9.6	59.50%	5.3
3/1	A5 North Left Ahead Right	57.50%	5.1	76.80%	11.2	60.00%	7.2
4/1	B4545 Station Rd Ahead Right Left	44.30%	4.2	85.60%	9.4	49.90%	4.7
2032 Base+Committed+Development							
Ref.	Lane Description	AM Peak		PM Peak		Saturday Peak	
		DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)	DoS (%)	MMQ (PCU)
1/2+1/1	A5025 Left Ahead Right	69.70%	5.5	93.40%	9.4	64.10%	4
2/1	A5 South Right Left Ahead	71.30%	6.8	93.00%	12	68.40%	6.1
3/1	A5 North Left Ahead Right	68.30%	5.9	77.10%	11.8	65.40%	8
4/1	B4545 Station Rd Ahead Right Left	50.10%	4.6	96.60%	13.8	52.40%	4.9

The 2032 Base + Committed modelling results indicate that some arms of the junction are expected to operate with a Degree of Saturation close to 90% in the PM peak period. This however only predicts queuing levels of between 7 and 12 vehicles on the busiest arms of the junction.

The additional background traffic, the use of 85th percentile trip rates and the routing of all Penrhos traffic through this junction would only result in a minor increase in queuing. This queuing equates to an additional 3 vehicles on the A5 South Right Left Ahead arm, an additional 4 vehicles on the B4545 Station Rd Ahead Right Left arm and an additional 1 vehicle on the A5 North Left Ahead Right arm. This level of queuing is likely to be imperceptible to the road user, and does not materially affect delays at this junction.

Notwithstanding the above, it is understood that the Wylfa scheme is proposing measures which reduce traffic flows at this junction.

Revised traffic impact figures are included as Appendix B and full modelling outputs are provided as Appendix C.

5.2 *Paragraph 7.15 The text states that light vehicles were factored using TEMPRO and adjusted for local variation using Holyhead specific NTM data, with heavy vehicles factored using NTM growth factors for Wales.* ***We suggest clarification of this approach be requested, in particular why heavy vehicles were***

growthed using a national factor when local specific factors, such as Holyhead Port, might result in local growth that varies against national trends.

Curtins Response:

As part of the Transport Assessment, light vehicles on the highway network were factored using TEMPRO. For HGV TEMPRO was not used, which is believed to be the correct methodology as:

"TEMPRO includes travel by vehicles owned by households and hence does not include freight vehicles. For forecasts of freight traffic - available by region, road type and vehicle class - refer to the results of the National Transport Model."

On the above basis it is considered appropriate to use NTM growth factors for HGV forecasting instead of applying a TEMPRO factor that is only applicable to light vehicles.

5.3 *Paragraph 7.16 states that in order to avoid double counting TEMPRO planning growth has been frozen to 2012 leaving only growth of background traffic.* ***In line with DfT guidance we suggest that sensitivity tests should be undertaken on the basis of planning assumptions consistent with TEMPRO at study area level.***

Curtins Response:

A review of TEMPRO has indicated that freezing the planning assumptions beyond 2012 would result in 1% less growth during the AM, PM and Saturday peak periods between the years of 2012 and 2022.

A 1% increase in background traffic levels is unlikely to have any material impact on the junctions considered within the Transport Assessment and is likely to be less than daily variance in traffic flows.

Notwithstanding the above, the sensitivity tests included in Section 5.1 do not freeze the planning assumptions.

6.0 Traffic Generation

6.1 *Paragraph 7.30 – The trip rates used to derive the development trips for the Penrhos site are referred to in this paragraph. Appendix B contains the TRICS data for the Holiday village land use type that has been used. From this data it appears that the trip rates are based on a very small sample of only 4 sites.* ***We suggest as wide a sample as possible be used to derive the trip rates for this land use type.***

Curtins Response:

The TRICS outputs used in the Transport Assessment were obtained from TRICS version 2012(a). This has since been superseded by TRICS version 2013(a).

Analysis of TRICS 2013(a) for a period between 1989 and 2012 indicates that there are only five holiday villages on the TRICS database. These five sites include the four sites that were used within the Transport Assessment and an additional site at Minehead. The site at Minehead has been discounted because there are 9700 dwellings and the trip rate is significantly lower than the other 4 sites. This site could be included with the assessment but it would result in lower trip rates.

It was agreed that Curtins would use the TRICS database to determine the traffic generation associated with the holiday village proposals. This has been done using the latest data that is available and therefore Curtins is of the opinion that the results are reasonable.

6.2 *Paragraph 7.35 makes reference to table 7.5 which shows the combined trip generation for the Cae Glas site for the hotel and leisure elements. We suggest that this table would be more useful if the hotel and leisure elements were presented separately to allow the trip generation of each element to be identified and understood.* ***We suggest this modification be requested.***

Curtins Response:

The trip generation for the leisure and hotel elements of the development proposals is provided in Table 6.1 below. This is based on the latest schedule of accommodation as detailed in Para 1.6 and 1.7.

Table 6.1 – Cae Glas Trip Rates

Element	AM Peak (08.30-09.30)			PM Peak (15.45-16.45)			SAT Peak (12.15-13.15)		
	Arr	Dep	Total	Arr	Dep	Total	Arr	Dep	Total
Cae Glas Leisure	18	29	46	29	19	48	21	14	34

6.0 Traffic Generation

Cae Glas Hotel	15	17	32	13	13	26	15	17	32
Total	33	46	78	42	32	74	36	31	66

6.3 *Notwithstanding the above comment, we note that the trip rates included in Appendix D appear to show that the trip rates for the hotel are based on a Thursday survey only and therefore do not include a Friday or a weekend survey.* ***We suggest that the trip rates for this land use be reviewed and a specific weekend trip rate be derived for the Saturday peak assessment.***

Curtins Response:

Curtins considers the hotel trip generation presented in the TA as representative of a hotel proposed in this location. However, a further analysis of the TRICS 2013(a) database indicates that there may be 19 hotel sites that are broadly representative of the proposed site. The data indicates that during the AM peak hour of 08.30 to 09.30 (calculated as 50% of 0800 to 0900 and 50% of 0900 to 1000) the average arrival trip rate was 0.153 and the average departure trip rate was 0.185. This is compared to 0.205 arrivals and 0.217 departures in the Transport Assessment.

During the PM peak period of 1545 to 1645 (calculated as 1600 to 1700) the 2013(a) data provides an average arrival trip rate is 0.121 and an average departure trip rate of 0.109. This is compared to 0.177 arrivals and 0.168 departures in the Transport Assessment.

An analysis for the Saturday peak period was undertaken using a broader site selection criteria within TRICS. This identified five sites. The data indicates that during the Saturday peak hour of 12.15 to 13.15 (calculated as 12:00 to 13:00 hours) the average arrival trip rate was 0.172 and the average departure trip rate was 0.153. This is compared to 0.177 arrivals and 0.168 departures in the Transport Assessment.

It is therefore concluded that the trip rates used in the Transport Assessment are reasonable. Notwithstanding this, the sensitivity tests contained in Section 5.1 have been undertaken using 85th percentile trip rates.

6.4 Paragraph 7.38 presents the trip rates for the Kingsland residential scheme. We note that the TRICS parameters have been limited by restricting the surveys to 2009. It is not clear why this has been done and ***we suggest clarification is requested as to why this has been done as this may impact on the resultant trip rates.***

Curtins Response:

The latest version of TRICS has been used to revisit the residential TRICS analysis and the search has been expanded from 2009 up to 2012.

The TRICS 2013(a) analysis indicates that there are 61 residential sites. The data indicates that during the AM peak hour of 08.30 to 09.30 (calculated as 50% of 0800 to 0900 and 50% of 0900 to 1000) the average arrival trip rate was 0.159 and the average departure trip rate was 0.307. This is compared to 0.154 arrivals and 0.323 departures in the Transport Assessment.

During the PM peak period of 1545 to 1645 (calculated as 1600 to 1700) the 2013(a) data provides an average arrival trip rate is 0.314 and an average departure trip rate of 0.196. This is compared to 0.322 arrivals and 0.199 departures in the Transport Assessment.

It is therefore concluded that the trip rates used in the TA are reasonable compared to when the search is expanded up to 2012. As with the hotel trip rates 85th percentile rates have been used in the sensitivity tests contained in Section 5.1.

6.5 *For the residential trip rates we also note that the Saturday trip rates appear to be based on a single survey sample. Again* ***we suggest that clarification be requested as to why this approach has been taken, as this may also influence the trip rates used in the assessment.***

Curtins Response:

The TRICS 2013(a) analysis indicates that there are three residential sites that were surveyed on a Saturday. These sites include the 792 dwelling site in Worcestershire that was included in the TA, a 102 dwelling site in Northamptonshire and a 17 dwelling site in Carmarthenshire.

The data indicates that during the peak network hour of 12.15 to 13.15 the average arrival trip rate was 0.229 and the average departure trip rate was 0.205. The arrival trip rate is less than the trip rate of 0.244 that was used in the TA. The departures trip rate is 0.004 higher than that used in the original TA which would equate to one additional vehicle.

On this above basis the trip rates used in the TA are considered to be reasonable.

6.0 Traffic Generation

The revised TRICS outputs are provided in Appendix D at the rear of this report.

7.0 Traffic Distribution and Assignment

7.1 *Paragraph 7.40 – The TA states that for both the Penrhos and Cae Glas developments, it has been assumed that 75% of leisure trips would be visitors checking in / out and 25% would be day trips etc. by existing guests.* ***We suggest that information be provided to support this critical assumption.***

Curtins Response:

During scoping discussions there was full agreement that a split should be applied to best identify how many of the leisure trips would be visitors checking in / out and how many would be day trips. The 75/25 split was agreed during the meeting and was considered by all parties to be a reasonable assumption.

Agreement regarding the split is detailed in Paragraph 3.21 of the scoping report.

As this is an assumed split, it was agreed that a sensitivity test would be undertaken at the A5/A5025 Valley signals within the TA to test the worst case scenario. The results of this sensitivity test are included in Section 5.1 of this report.

7.2 *Paragraph 7.40 refers to assumptions used to distribute the Kingsland residential trips to the local network, stating that this is based on census journey to work data.* ***We suggest the applicant be requested to confirm the census data used in this assignment and consider an alternative means of assigning this residential development traffic.***

Curtins Response:

The distribution of the residential development traffic has been based on journey to work data extracted from the 2001 census. This is a methodology that has been considered acceptable on a number of schemes that Curtins has worked on, including a Public Inquiry for a 600 dwelling residential development in Preston.

The distribution data was presented to Highways Officers at IoACC during the scoping discussions and paragraph 2.21 of the scoping report confirmed that the Officer felt this data was acceptable and the resulting distribution appeared to be reasonable.

8.0 Capacity Assessments

8.1 *General – We note in the capacity assessment section no results are presented for the 2012 with development scenario. We suspect this is because the 2022 scenario is the more onerous of the two scenarios but suggest that* ***confirmation of this be requested for the applicant.***

Curtins Response:

Curtins confirms that this is the case.

8.2 *Paragraph 8.9 – Table 8.6 summarises that the westbound off-slip of the A55 Junction 2 will have a predicted RFC of 0.86 in the AM peak and the A5153 approach from the west on the western junction 2 roundabout will have a predicted RFC of 0.88 in the PM peak.* ***This excess level of operation appears to be a direct result of the introduction of the proposed scheme and therefore mitigation for this should be considered.***

Curtins Response:

Table 8.6 of the TA indicates that the queue on the westbound off-slip of the A55 Junction 2 will increase from 4 vehicles to 6 vehicles as a result of the proposed development. Similarly the queue on the A5153 approach from the west may increases from 4 vehicles to 7 vehicles as a result of the development. This level of queuing is likely to occur for a very brief period in the AM and PM peak periods and the impact is likely to be imperceptible to road users.

It should be borne in mind that the sensitivity test contained in the TA, which uses the lower Parc Cybi traffic generation figures predicts that the RFC on both of these arms will be significantly less than 0.85.

This is further confirmed in the sensitivity tests contained in Section 5.1 of this report.

8.3 *Paragraph 8.13 presents the results of a sensitivity test using reduced trip generation for Parc Cybi. We cannot comment on the accuracy of the Parc Cybi TA, but suggest that IoACC review the issue.*

This matters is discussed further in the introduction section of this report.

8.4 *Paragraph 8.19 presents the results of the assessment of the B454 Kingsland Road/A5153 roundabout. Table 8.12 indicates that* ***the junction will be overcapacity in the 'with development' scenario with***

significant queuing predicted to occur. This excess operation is not wholly attributable to the leisure scheme, but the addition of the leisure development traffic does lead to a significant worsening of the situation.

Curtins Response:

Table 8.12 of the TA indicates that the queue on one arm of the roundabout may increase from 7 vehicles to 16 vehicles in the AM peak period as a result of the development. During the PM peak period the queue on a different arm will increase from 8 vehicles to 16 vehicles as a result of the proposed development. This level of queuing is likely to occur for a very brief period in the AM and PM peak periods and is unlikely to cause a material issue, such as blocking back to an adjacent junction.

It should also be borne in mind that the sensitivity test contained in the TA, which uses the lower Parc Cybi traffic generation figures predicts that the RFC on both of these arms will be significantly less than 0.85.

This is further confirmed in the sensitivity tests contained in Section 5.1 of this report.

8.5 *Paragraph 8.28 refers to a sensitivity test requested by WG on the A5/A5025 junctions whereby 100% of leisure trips to the Penrhos site are in/out bound.* ***We suggest that the applicant be requested to complete the sensitivity test and assess the impact of the 100% assumption on junction 3 and also confirm the sensitivity test results for the A5/A5025 junction are accurate.***

Curtins Response:

The sensitivity tests in Section 5.1 of this report assume 100% of Penrhos traffic arrives through the A5/A5025 junction & Junction 3, whilst 100% of Cae Glas arrivals are via Junction 2 of the A55.

9.0 General Issues

9.1 *In the summary of the scoping discussions it is noted that the assessment should include AM, PM and Saturday peaks and identification of ferry parks.* ***We note that ferry related peaks do not appear to have been considered/included in the TA.***

Curtins Response:

During the preparation of the Transport Assessment, Curtins undertook a review of the ferry timetables. This indicated that the Irish Ferries Ulysses Cruise Ferry departs Holyhead each day at 1410. The Saturday network peak of 1215 to 1315 is therefore likely to include some traffic that is planning to use that ferry. Similarly the Stena Adventurer departs daily at 1350 and some of this traffic is likely to be included in the hours assessed.

With regards to the weekday conditions, the Irish Ferries Dublin Swift Fast Ferry leaves Holyhead every day at 1515. Therefore the PM network peak of 1545 to 1645 will certainly include traffic associated with the ferry.

There are a further three Stena ferries that depart Holyhead Port each day throughout the year. These leave at 0230 AM, 0820 AM and 2130 PM. On the basis that vehicles arrive at least 30 minutes to an hour before the ferry departs, all of the times are outside of traditional peak hours. More importantly they occur outside the peak hours of the Parc Cybi committed development.

The arrivals at Holyhead Port also generally occur outside of the Parc Cybi peak periods at 0530, 1135, 1915 and 0030.

Therefore, it is felt that the ferry peaks are considered within the network peaks assessed. Furthermore, the majority of ferry movements occur outside of the Parc Cybi peak periods when the combined future traffic volume on the network is lower.

From a review of the ATC data on the county roads, it is clear that traffic levels do not significantly fluctuate at ferry arrival/departure times. On the A55 mainline it is acknowledged that flows do vary at these times and expect this will be considered in the merge/diverge assessments carried out on behalf of WG/NWTRA.

9.2 *Paragraph 1.9 sets out the content that was agreed upon following the scoping process. Whilst we note that this scope was agreed we suggest that given the size and scale of the development an assessment of*

the potential construction impacts together with an outline construction management strategy should also be included in the TA, or form part of any on-going planning conditions/reserved matters.

Curtins Response:

Curtins envisage the production of a Construction Management Plan at the reserved matters stage and are happy to accept a condition to that effect.

9.3 *(L) Paragraph 3.10 states that the nature reserve will be accessible to both visitors to the leisure development and the general public.* ***We suggest that the applicant be requested to consider movements to the nature reserve in their assessment.***

Curtins Response:

Curtins has undertaken a review of the TRICS database and whilst there is no specific category for Nature Reserves, the Country Park category is considered to be the closest but perhaps still a more onerous representation. The 2013(a) database indicates that there are only 4 sites on the database, three of which relate to Saturdays.

The TRICS database indicates that there could be in the region of 120 two-way trips during the Saturday network peak. These trips occur at a time of week when the B1 elements of the Parc Cybi committed development are not open and as demonstrated in the TA there is a significant amount of future reserve capacity on the highway network when Parc Cybi is not operational.

With regards to the weekday AM and PM network peak periods it is considered that there are unlikely to be a material number of trips associated with the nature reserve. This is supported by the fact that there are no surveys in the TRICS database for weekdays. Those trips that do occur are likely to be linked with a visit to the other Cae Glas leisure facilities.

In summary, the trips associated with the nature reserve will not change the results presented in the Transport Assessment nor those presented earlier in this report.

9.0 General Issues

9.4 *(L) Paragraph 3.18 states that an additional access point to the Penrhos site will be via the existing Penrhos Beach Road junction.* ***We suggest that the applicant be asked to undertake assessment to demonstrate this junction can operate satisfactorily in both capacity and road safety terms.***

Curtins Response:

Drawing Number 90145/TN1/001 shows the existing layout of the Beach Road access point. The drawing also shows the visibility splays and demonstrates that there are no restrictions or issues with regards to highway safety.

With regards to the capacity of the junction, these are included within the TA under paragraph 8.33. The results clearly demonstrate that the access will operate well within capacity during all scenarios and does not warrant further testing under the sensitivity tests presented in this report.

10.0 Access

Penrhos Site Access

10.1 *The A5 approaches to the proposed site access roundabout appear to result in a very tight alignment through the circulatory carriageway, particularly for the southbound movement. The circulatory carriageway appears to be too narrow for this sized ICD. We suggest that a swept path analysis be undertaken to demonstrate that a HGV can safely make this and all movements through the junction.*

Curtins Response:

A swept path analysis has been undertaken and the results are presented on Drawing 90145/TN1/002 and 003.

10.2 *We note that the internal roadway to the site following the roundabout narrows to what appears to be a 4m single lane road. Whilst not on public highway such a narrow road may result in queues blocking back onto the highway during peak periods of inbound movements.*

Curtins Response:

The width of the road has been designed so that it is in keeping with the rural nature of the Penrhos site.

10.3 In relation to the above, we suggest the swept path analysis be undertaken on immediate sections of the internal roadway to confirm that the two-way section is suitable to safely accommodate likely HGVs or refuse vehicles.

Curtins Response:

A swept path analysis has been undertaken and the results are presented on Drawing 90145/TN1/002 and 003. Some driver courtesy may be necessary on the internal roads at occasions when large vehicles arrive, but this will not hinder the operation of the adopted highway.

Cae Glas Site Access

10.4 *The proposed design for this junction involves an oblique angle for the access road to merge with the existing carriageway. Given that this junction is within an existing 60mph speed limit the resultant visibility does not appear to meet the required standards. The forward SSD visibility envelope on the existing*

carriageway appears to be obscured by vegetation. This non-compliance may be addressed by extending the 30mph speed limit to and beyond the site access as this speed has a lower visibility requirement.

Curtins Response:

Vehicle speeds were observed to be much lower than the speed limit in the vicinity of the proposed junction and therefore Curtins would suggest vegetation is trimmed where possible to protect visibility for the current actual speeds. However, should IoACC prefer, the suggested reduction of the 30mph speed limit may be appropriate.

10.5 *The site access road appears to be 5.25m in width. We suggest that minimum width of 5.5m is provided.*

Curtins Response:

The road width being proposed does measure 5.5m.

10.6 Further to the above we suggest that swept path analysis be undertaken to confirm that HGVs and other large vehicles that are likely to require access to the site can safely negotiate through the junction.

Curtins Response:

A swept path analysis has been undertaken and the results are presented on Drawing 90145/TN1/004.

Kingsland Site Access

10.7 *The proposed Kingsland site access junction appears to meet the requirements for visibility. However, we do note that the B4545 in this location has an undulating vertical alignment, to the immediate north of the proposed junction, the B4545 falls into a depression, resulting in a crest. This could obscure visibility of vehicles on the B4545(travelling northbound) for vehicles egressing the site.*

Curtins Response:

Curtins undertook a number of site visits to determine the best location for the proposed access and this was agreed in principle with Highways Officers at IoACC. It is felt that visibility requirements are achieved with due respect of the vertical alignment of the existing carriageway in their location. Notwithstanding this,

in order to provide further comfort at this outline stage Curtins will visit the site to verify the measurements and have invited IoACC Highways to attend the site visit. We will issue the findings of this site visit in a separate technical note.

10.8 Given the proximity of the pedestrian refuge island to the junction, we suggest that swept path analysis be undertaken to demonstrate that HGV vehicle movements can be made in a safe manner.

Curtins Response:

A swept path analysis has been undertaken and the results are presented on Drawing 90145/TN1/005 and 006.

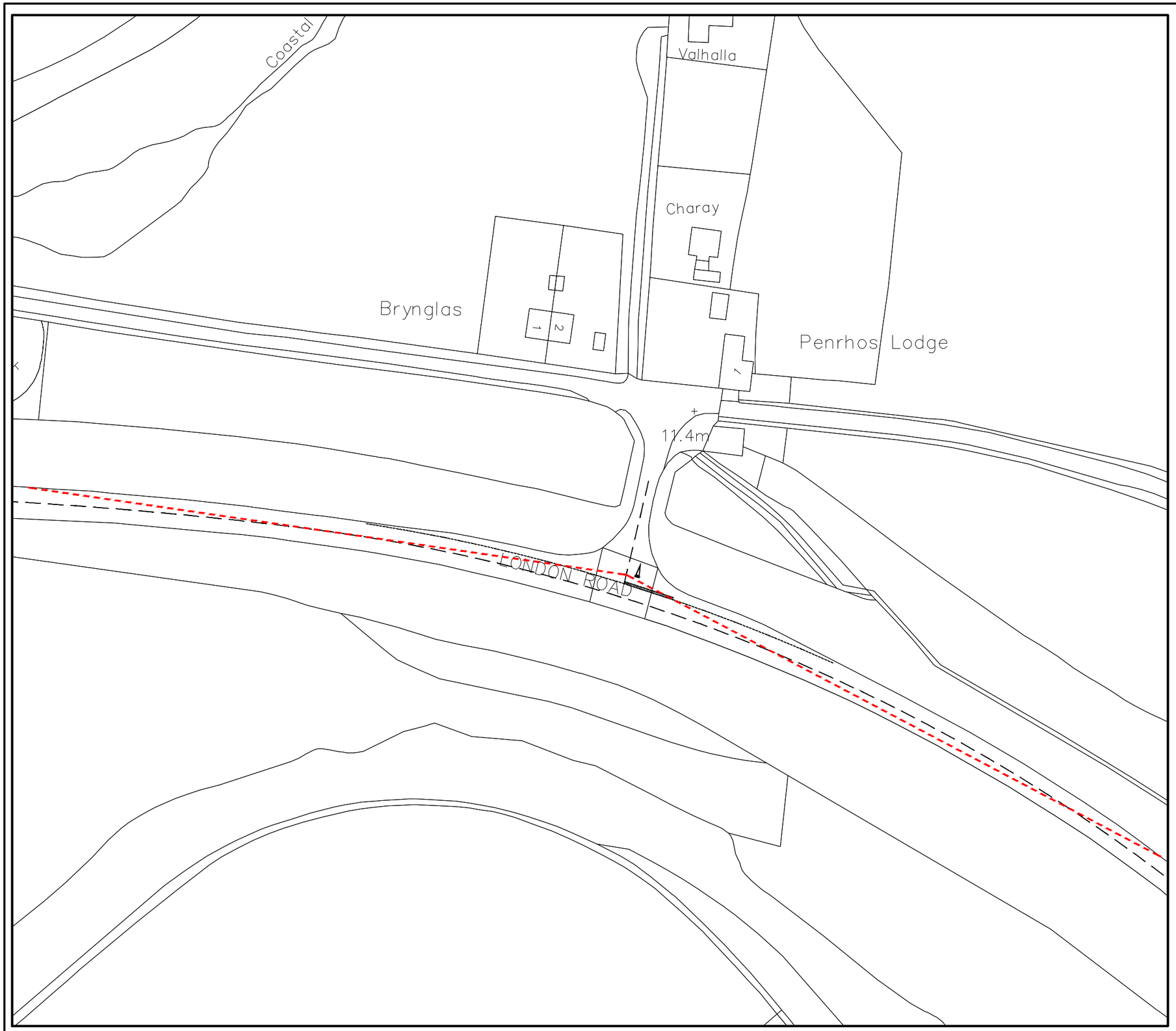
11.0 Conclusion

11.1 Curtins are of the opinion that this Technical Note addresses all of the consultation responses raised by IoACC, WG and Mott MacDonald.

11.2 Where sensitivity tests have been requested, these have been undertaken and the results demonstrate that the conclusions of the original Transport Assessment remain valid.

11.3 On the above basis, it is hoped that IoACC and the statutory highway consultees find the proposals acceptable from a traffic and transportation perspective.

Drawings



NOTES:

2.4M x 160m VISIBILITY SPLAY

Rev:	Description:	Date:	By:	Chkd:

curtins consulting

Curtins Consulting Ltd
10 Oxford Court, Bishopsgate, Manchester, M2 3WQ
t: 0161 236 2394 f: 0161 228 7902
e: manchester@curtins.com www.curtins.com

Structures • Civils • Environmental • Infrastructure • Transport Planning • Health & Safety • Dispute Resolution
Birmingham • Bristol • Cardiff • Douglas • Edinburgh • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: PRELIMINARY

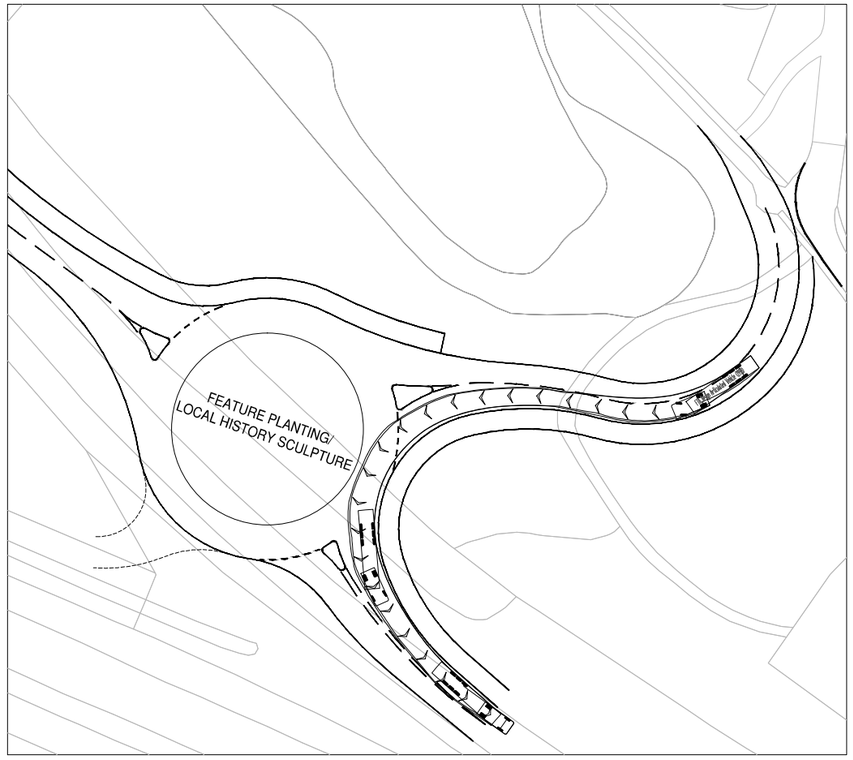
Project: PENRHOS LEISURE VILLAGE
ANGLESEY

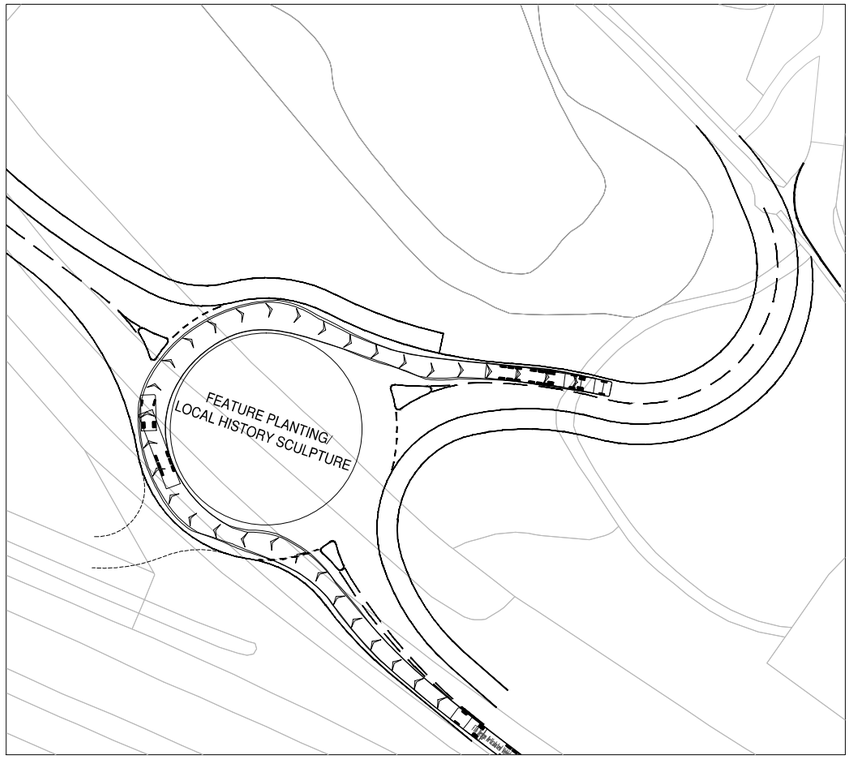
Drg Title: BEACH ROAD ACCESS

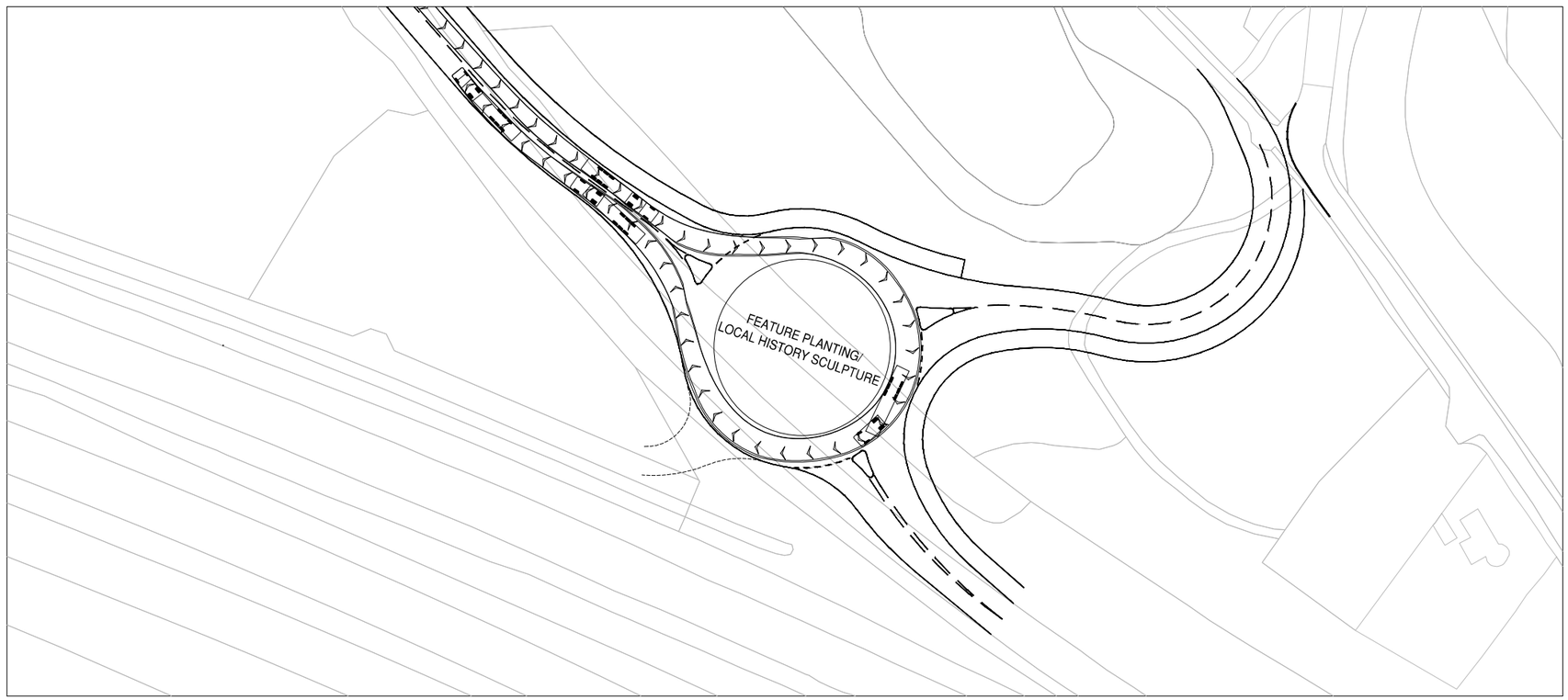
Scale:	Size:	First Issue:	Drawn:	Checked:
1:	A3	JAN 13	MF	AV

Drg No: TN1_001

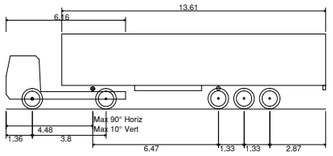
Rev: /







NOTES:



FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to Lock Time	3.00s
Kerb to Kerb Turning Radius	6.550m

Rev:	Description:	Date:	By:	Chkd:

curtins consulting

Curtins Consulting Ltd
10 Oxford Court, Bishopsgate, Manchester, M2 3WQ
t: 0161 236 2394
e: manchester@curtins.com www.curtins.com

Structures • Civils • Environmental • Infrastructure • Transport Planning • Health & Safety • Dispute Resolution
Birmingham • Bristol • Cardiff • Douglas • Edinburgh • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: PRELIMINARY

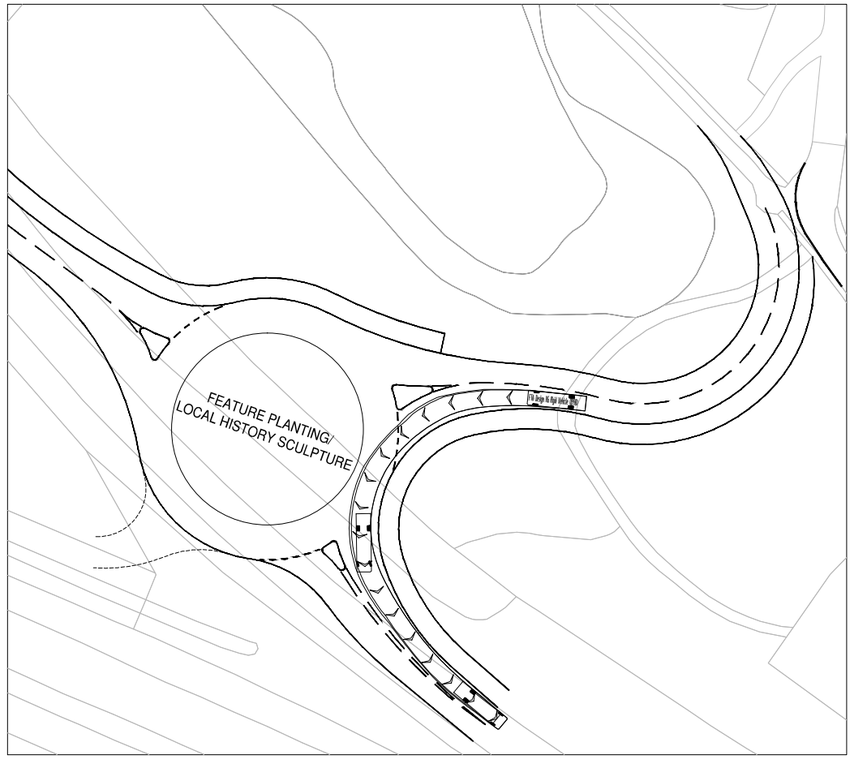
Project: PENRHOS LEISURE VILLAGE
ANGLESEY

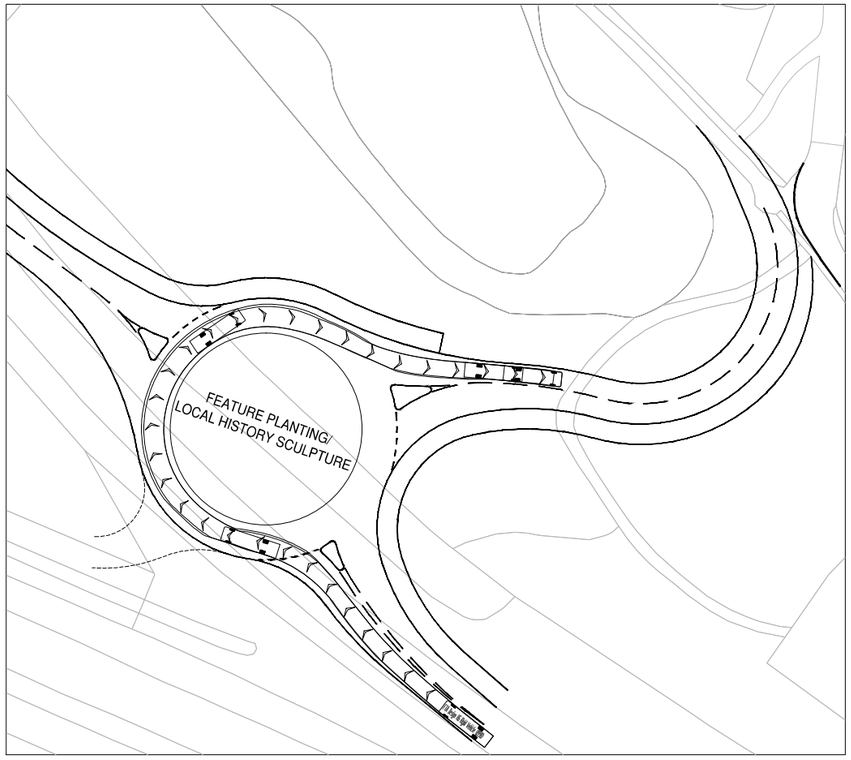
Drg Title: PROPOSED ROUNDABOUT
ACCESS SWEPT PATH ANALYSIS

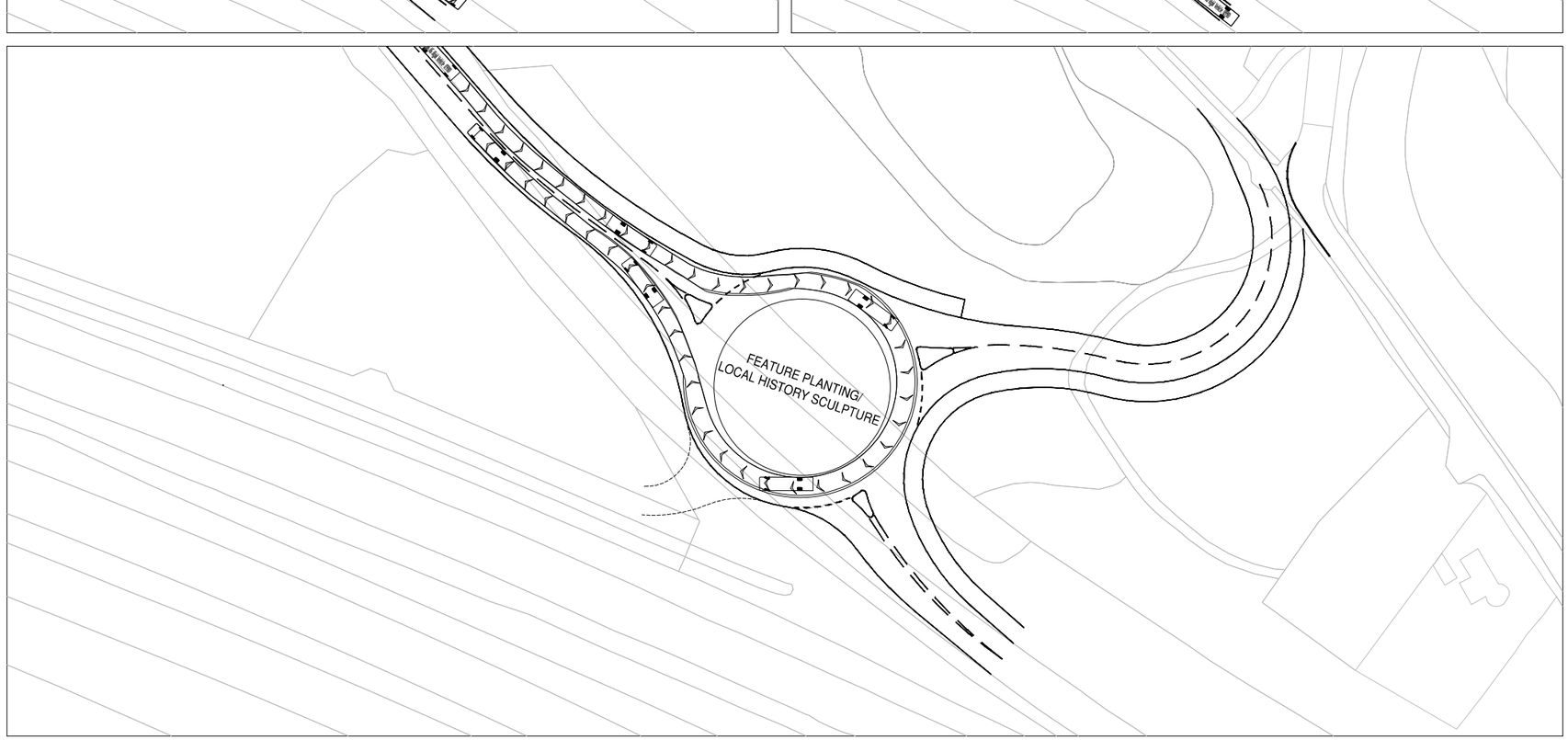
Scale:	Size:	First Issue:	Drawn:	Checked:
1:1000	A3	FEB 13	MF	KY

Drg No: TN1_002

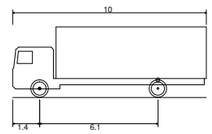
Rev:







NOTES:



FTA Design HG Rigid Vehicle (1998)

Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to Lock Time	3.00s
Kerb to Kerb Turning Radius	11.000m

Rev:	Description:	Date:	By:	Chkd:

curtins consulting

Curtins Consulting Ltd
10 Oxford Court, Bishopsgate, Manchester, M2 3WQ
t: 0161 236 2394
e: manchester@curtins.com www.curtins.com

Structures • Civils • Environmental • Infrastructure • Transport Planning • Health & Safety • Dispute Resolution
Birmingham • Bristol • Cardiff • Douglas • Edinburgh • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: PRELIMINARY

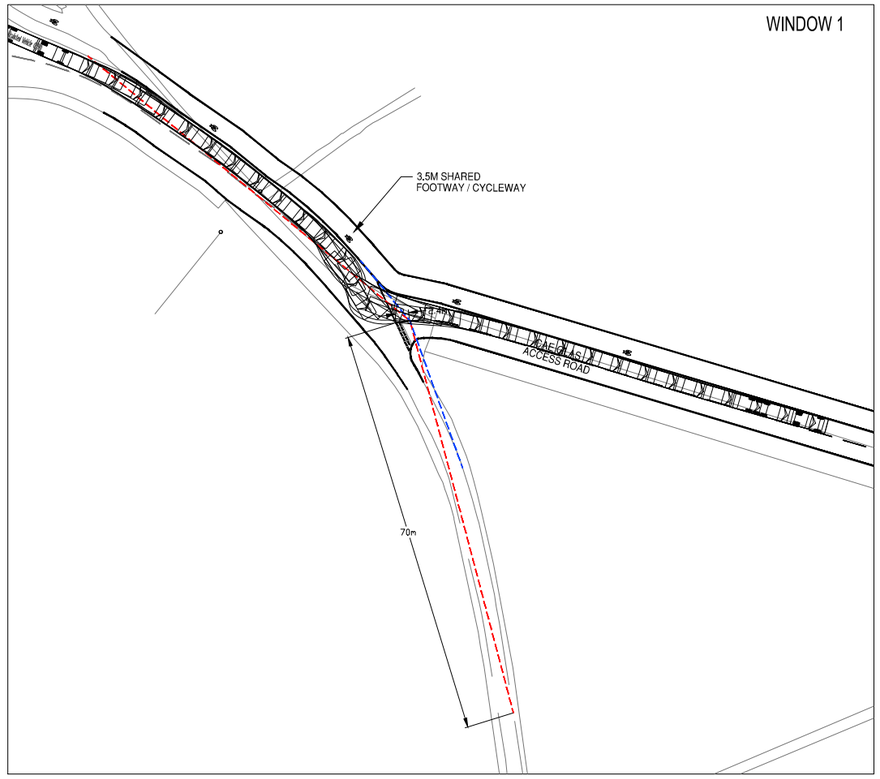
Project: PENRHOS LEISURE VILLAGE
ANGLESEY

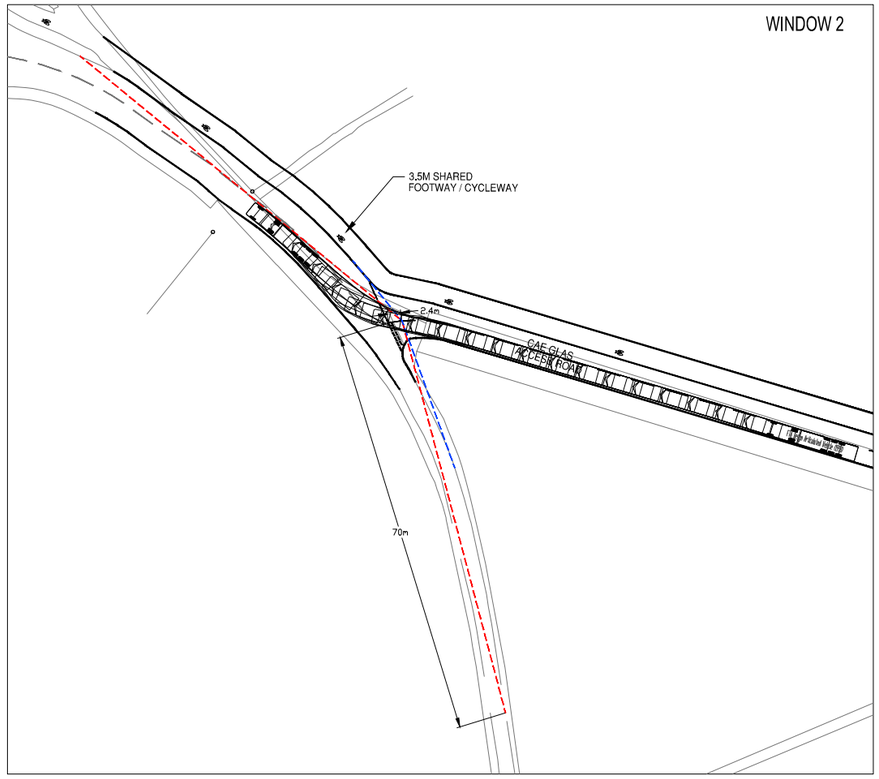
Drg Title: PROPOSED ROUNDABOUT
ACCESS SWEPT PATH ANALYSIS

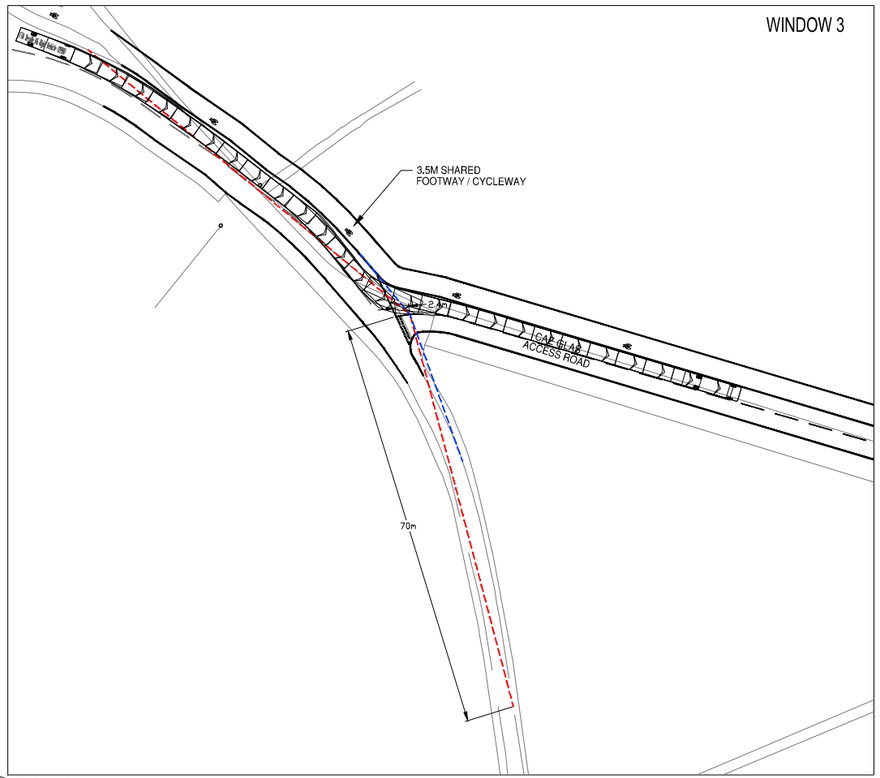
Scale:	Size:	First Issue:	Drawn:	Checked:
1:1000	A3	FEB 13	MF	KY

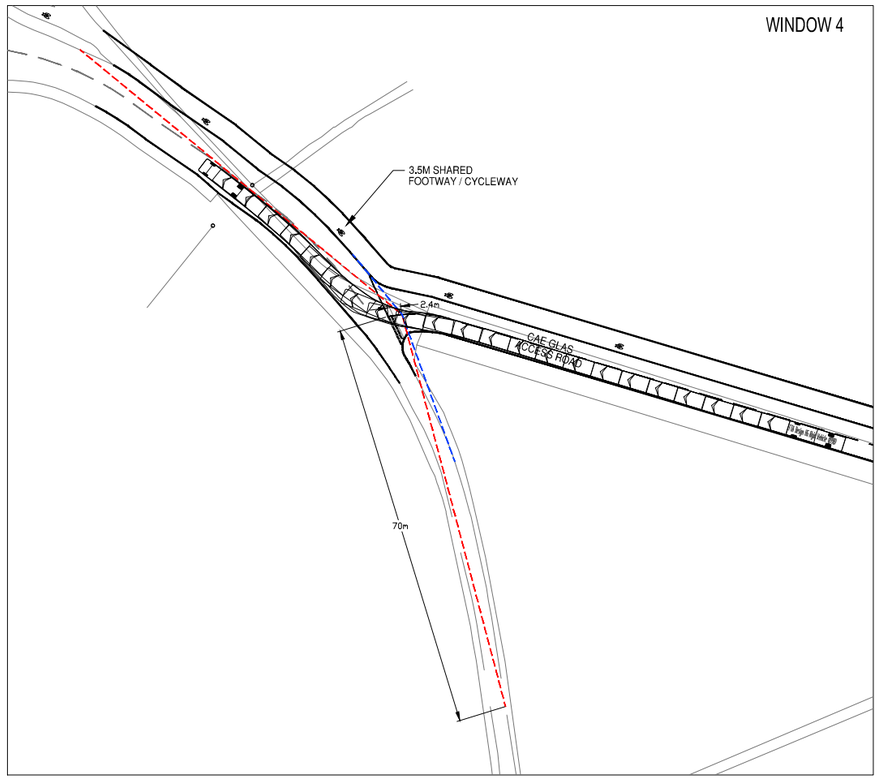
Drg No: TN1_003

Rev:







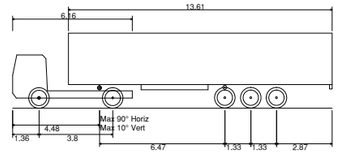


NOTES:

Key

- 70m Visibility splay for 30mph road as stated in DMRB Vol 6.
- 70m Visibility splay for 30mph road as stated in DMRB Vol 6, tied into kerb line.

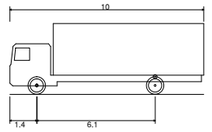
WINDOWS 1 & 2



FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to Lock Time	3.00s
Kerb to Kerb Turning Radius	6.550m

WINDOWS 3 & 4



FTA Design HG Rigid Vehicle (1998)

Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to Lock Time	3.00s
Kerb to Kerb Turning Radius	11.000m

Rev:	Description:	Date:	By:	Chkd:

curtins consulting

Curtins Consulting Ltd
10 Oxford Court, Bishopsgate, Manchester, M2 3WQ
t: 0161 236 2394
e: manchester@curtins.com www.curtins.com

Structures • Civils • Environmental • Infrastructure • Transport Planning • Health & Safety • Dispute Resolution
Birmingham • Bristol • Cardiff • Douglas • Edinburgh • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: PRELIMINARY

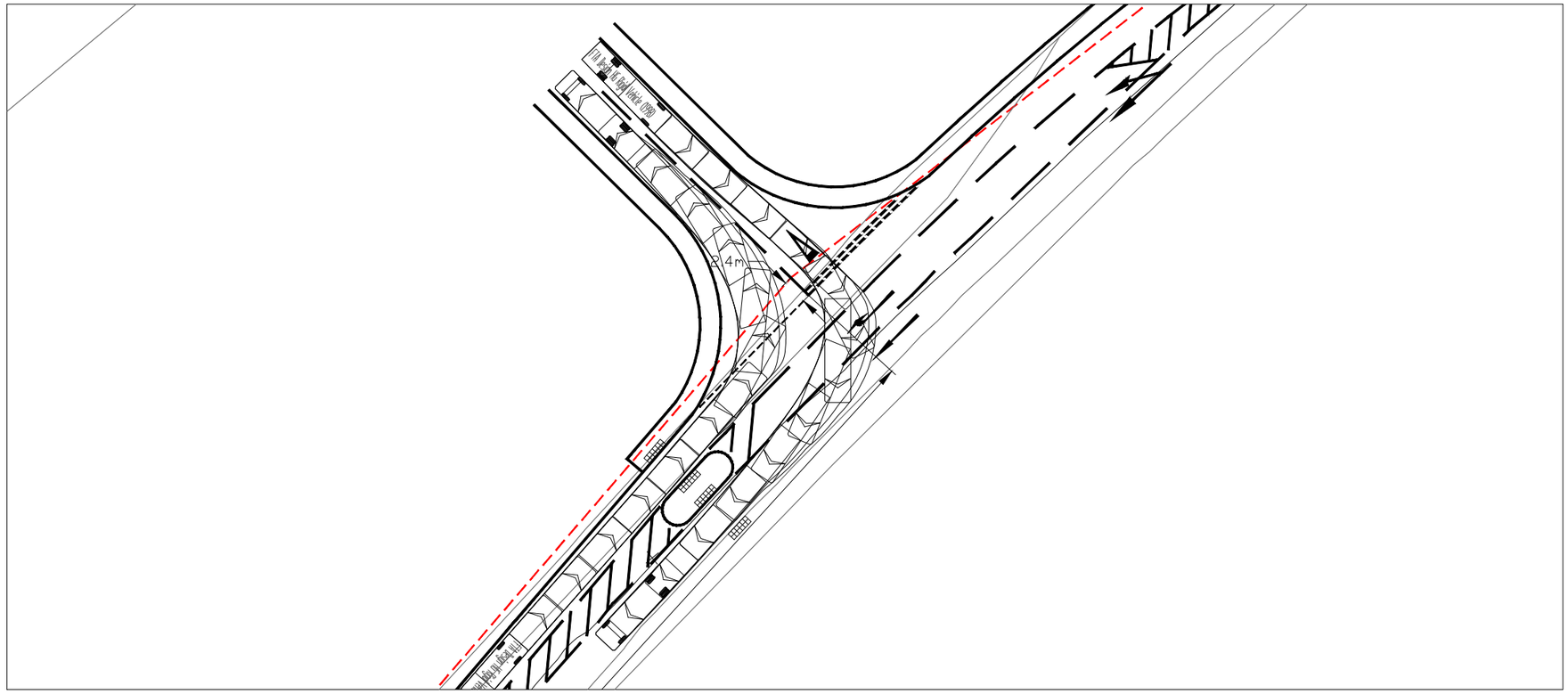
Project: PROPOSED DEVELOPMENT
PENRHOS, HOLYHEAD, ANGLESEY

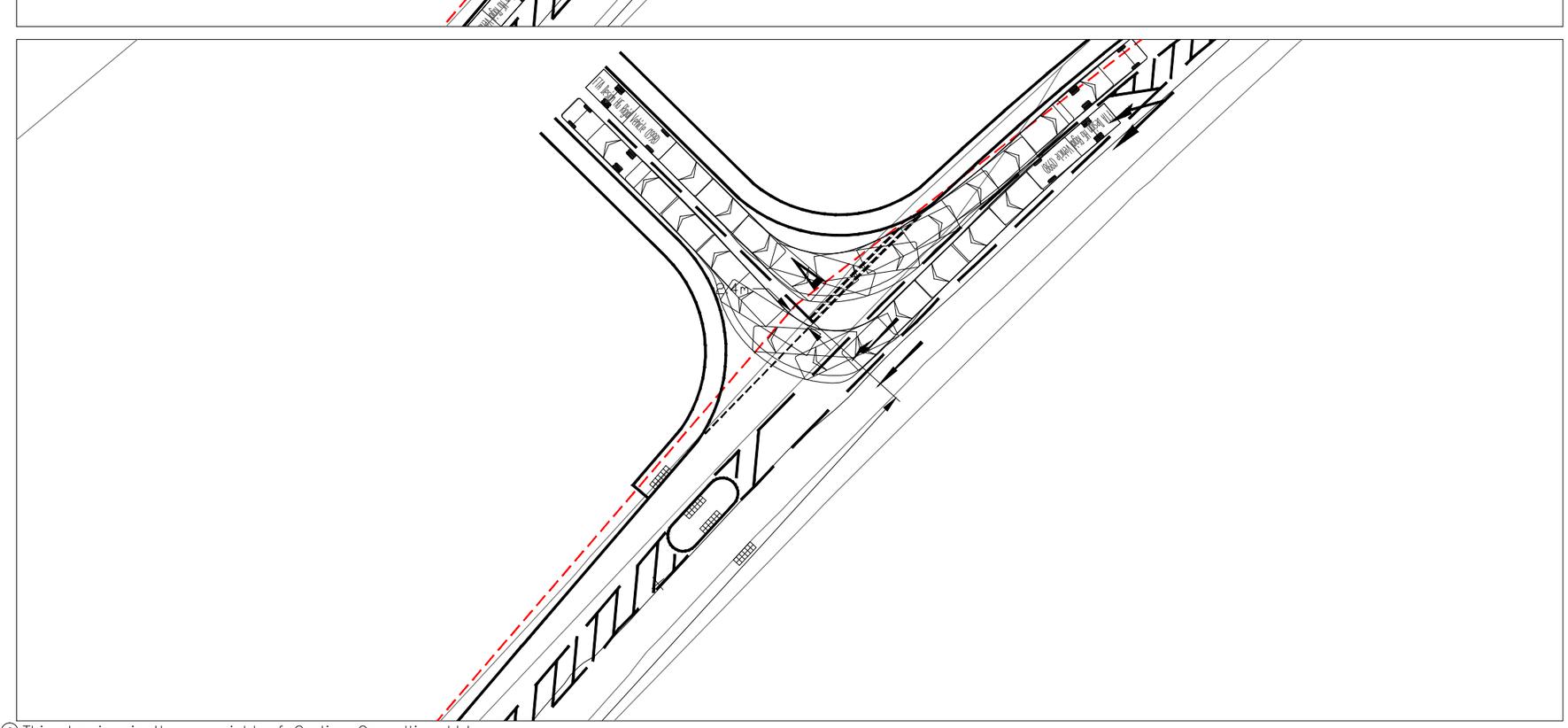
Drg Title: CAE GLAS ACCESS
SWEPT PATH ANALYSIS

Scale:	Size:	First Issue:	Drawn:	Checked:
1:500	A3	FEB 13	MF	KY

Drg No: TN1_004

Rev: /





NOTES:

Key

90m Visibility splay for 40mph road as stated in DMRB Vol 6.

FTA Design HG Rigid Vehicle (1998)

Overall Length	10.000m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to Lock Time	3.00s
Kerb to Kerb Turning Radius	11.000m

Rev:	Description:	Date:	By:	Chkd:

curtins consulting

Curtins Consulting Ltd
10 Oxford Court, Bishopsgate, Manchester, M2 3WQ
t: 0161 236 2394
e: manchester@curtins.com www.curtins.com

Structures • Civils • Environmental • Infrastructure • Transport Planning • Health & Safety • Dispute Resolution
Birmingham • Bristol • Cardiff • Douglas • Edinburgh • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: PRELIMINARY

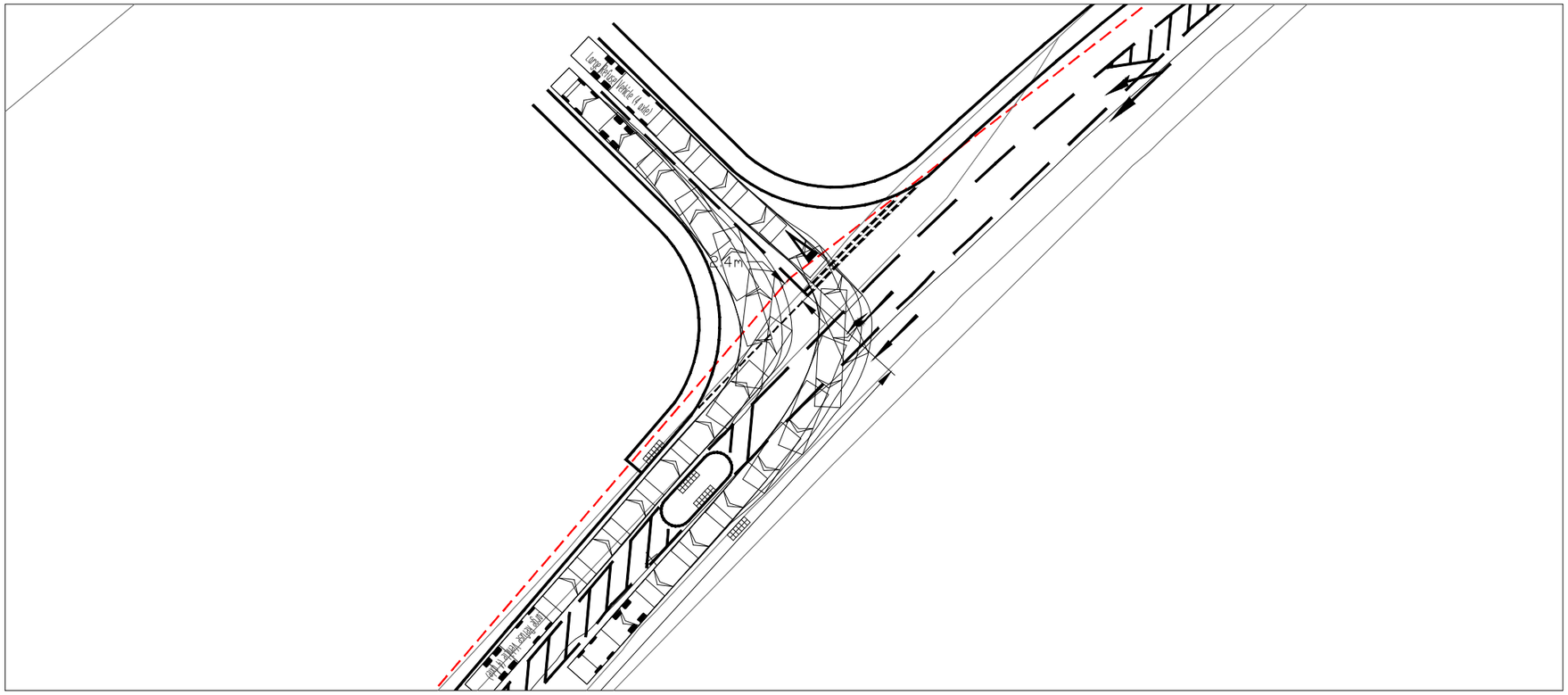
Project: PROPOSED DEVELOPMENT
PENRHOS, HOLYHEAD, ANGLESEY

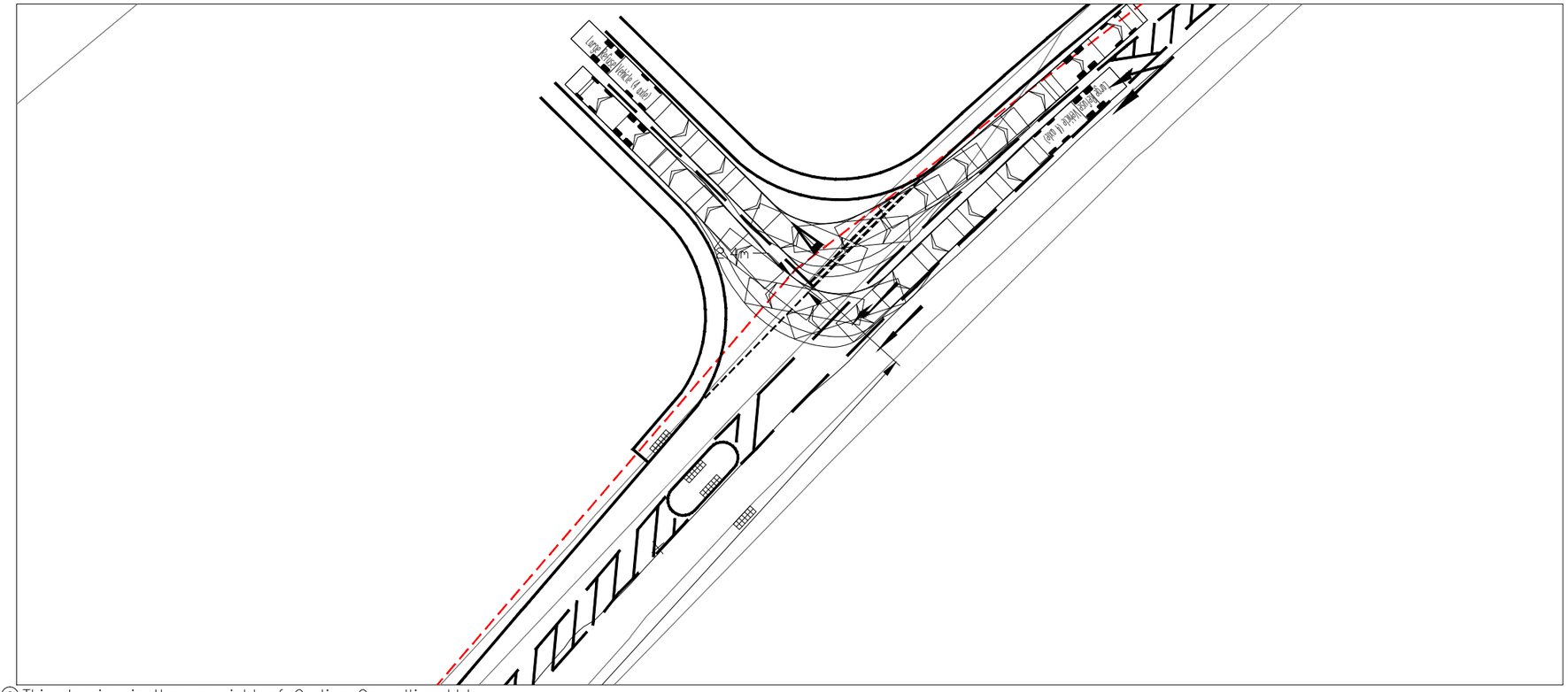
Drg Title: KINGSLAND ACCESS
10m RIGID SWEPT PATH ANALYSIS

Scale:	Size:	First Issue:	Drawn:	Checked:
1:500	A3	FEB 13	MF	KY

Drg No: TN1_005

Rev: /

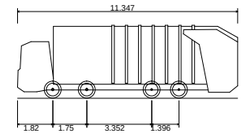




NOTES:

Key

90m Visibility splay for 40mph road as stated in DMRB Vol 6.



Large Refuse Vehicle (4 axle)

Overall Length	11.347m
Overall Width	2.500m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to Lock Time	6.00s
Wall to Wall Turning Radius	11.330m

Rev:	Description:	Date:	By:	Chkd:

curtins consulting

Curtins Consulting Ltd
10 Oxford Court, Bishopsgate, Manchester, M2 3WQ
t: 0161 236 2394
e: manchester@curtins.com www.curtins.com

Structures • Civils • Environmental • Infrastructure • Transport Planning • Health & Safety • Dispute Resolution
Birmingham • Bristol • Cardiff • Douglas • Edinburgh • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status: PRELIMINARY

Project: PROPOSED DEVELOPMENT
PENRHOS, HOLYHEAD, ANGLESEY

Drg Title: KINGSLAND ACCESS
LARGE REFUSE SWEPT PATH ANALYSIS

Scale:	Size:	First Issue:	Drawn:	Checked:
1:500	A3	FEB 13	MF	KY

Drg No: TN1_006

Rev: /

Appendix A – Parc Cybi Trip Generation Comparison

Curtins TRICS Analysis		Average Trip Rate					
		AM Peak			PM Peak		
		Arrive	Depart	Total	Arrive	Depart	Total
Hotel	Trip Rate	0.219	0.245	0.464	0.26	0.197	0.457
	Total Trips	13	15	28	16	12	27
Food and Drink	Trip Rate	8.537	7.211	15.748	11.423	11.049	22.472
	Total Trips	119	101	220	159	154	313
B2 General Industry	Trip Rate	0.364	0.159	0.523	0.082	0.317	0.399
	Total Trips	204	89	293	46	178	224
D2- Cinema	Trip Rate	0	0	0	2.175	1.933	4.108
	Total Trips	0	0	0	71	63	134
D2- Fitness	Trip Rate	0.757	0.431	1.188	1.895	1.252	3.147
	Total Trips	11	6	17	26	17	44
B1 Business	Trip Rate	1.418	0.254	1.672	0.193	1.195	1.388
	Total Trips	433	78	511	59	365	424
D1b Creche	Trip Rate						
	Total Trips	0	0	0	0	0	0
	Trip Rate						
	Total Trips	0	0	0	0	0	0
	Trip Rate						
	Total Trips	0	0	0	0	0	0
	Trip Rate						
	Total Trips	0	0	0	0	0	0
Total Development Trips		769	282	1051	350	771	1122

Parc Cybi TA		Average Trip Rate					
		AM Peak			PM Peak		
		Arrive	Depart	Total	Arrive	Depart	Total
Hotel	Trip Rate	0.18	0.16	0.34	0.25	0.18	0.43
	Total Trips	11	10	20	15	11	26
Food and Drink	Trip Rate	3.695	2.905	6.6	11.69	10.285	21.975
	Total Trips	52	40	92	163	143	306
B1/B2 General Industry	Trip Rate	0.32	0.09	0.41	0.06	0.34	0.4
	Total Trips	179	50	230	34	191	224
D2- Cinema	Trip Rate	0	0	0	2.35	2.29	4.64
	Total Trips	0	0	0	76	74	151
D2- Fitness	Trip Rate	1.18	0.8	1.98	2.61	2.34	4.95
	Total Trips	16	11	28	36	33	69
B1 Business	Trip Rate	1.66	0.21	1.87	0.26	1.34	1.6
	Total Trips	507	64	571	79	409	489
D1b Creche	Trip Rate						
	Total Trips	0	0	0	0	0	0
	Trip Rate						
	Total Trips	0	0	0	0	0	0
	Trip Rate						
	Total Trips	0	0	0	0	0	0
	Trip Rate						
	Total Trips	0	0	0	0	0	0
Total Development Trips		749	165	914	367	829	1196

Parc Cybi Development Schedule

Hotel	60 Rooms
Food and Drink	1394 sqm GFA
B2 General Industry	56047 sqm GFA
D2- Cinema	3250 sqm GFA
D2 Fitness	1394 sqm GFA
B1 Business	30555 sqm GFA
D1b Creche	372 sqm GFA

TRICS 2013(a)v6.11.1
Trip Rate P Gross floor area

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
Calculation Factor: 100 sqm
Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:0	10	27531	0.625	10	27531	0.129	10	27531	0.754
08:00-09:0	10	27531	1.418	10	27531	0.254	10	27531	1.672
09:00-10:0	10	27531	0.746	10	27531	0.264	10	27531	1.01
10:00-11:0	10	27531	0.264	10	27531	0.207	10	27531	0.471
11:00-12:0	10	27531	0.283	10	27531	0.27	10	27531	0.553
12:00-13:0	10	27531	0.363	10	27531	0.481	10	27531	0.844
13:00-14:0	10	27531	0.44	10	27531	0.425	10	27531	0.865
14:00-15:0	10	27531	0.271	10	27531	0.329	10	27531	0.6
15:00-16:0	10	27531	0.262	10	27531	0.444	10	27531	0.706
16:00-17:0	10	27531	0.263	10	27531	0.871	10	27531	1.134
17:00-18:0	10	27531	0.193	10	27531	1.195	10	27531	1.388
18:00-19:0	10	27531	0.083	10	27531	0.352	10	27531	0.435
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			5.211			5.221			10.432

TRICS 2013(a)v6.11.1
Trip Rate P Gross floor area

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
Calculation Factor: 100 sqm
Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:0	7	35528	0.306	7	35528	0.138	7	35528	0.444
08:00-09:0	7	35528	0.364	7	35528	0.159	7	35528	0.523
09:00-10:0	7	35528	0.246	7	35528	0.177	7	35528	0.423
10:00-11:0	7	35528	0.196	7	35528	0.193	7	35528	0.389
11:00-12:0	7	35528	0.218	7	35528	0.229	7	35528	0.447
12:00-13:0	7	35528	0.187	7	35528	0.241	7	35528	0.428
13:00-14:0	7	35528	0.243	7	35528	0.224	7	35528	0.467
14:00-15:0	7	35528	0.19	7	35528	0.228	7	35528	0.418
15:00-16:0	7	35528	0.167	7	35528	0.218	7	35528	0.385
16:00-17:0	7	35528	0.16	7	35528	0.348	7	35528	0.508
17:00-18:0	7	35528	0.082	7	35528	0.317	7	35528	0.399
18:00-19:0	7	35528	0.053	7	35528	0.122	7	35528	0.175
19:00-20:00									
20:00-21:00									
21:00-22:00									
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			2.412			2.594			5.006

TRIP RATE : FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
Calculation Factor: 100 sqm
Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:0	2	430	3.721	2	430	2.907	2	430	6.628
07:00-08:0	3	360	9.815	3	360	7.87	3	360	17.685
08:00-09:0	5	377	8.537	5	377	7.211	5	377	15.748
09:00-10:0	6	356	7.21	6	356	7.069	6	356	14.279
10:00-11:0	6	356	7.912	6	356	7.959	6	356	15.871
11:00-12:0	6	356	9.223	6	356	8.146	6	356	17.369
12:00-13:0	6	356	16.245	6	356	15.122	6	356	31.367
13:00-14:0	6	356	15.543	6	356	16.339	6	356	31.882
14:00-15:0	6	356	11.376	6	356	12.968	6	356	24.344
15:00-16:0	6	356	12.032	6	356	11.423	6	356	23.455
16:00-17:0	6	356	11.751	6	356	11.938	6	356	23.689
17:00-18:0	6	356	11.423	6	356	11.049	6	356	22.472
18:00-19:0	6	356	12.734	6	356	13.39	6	356	26.124
19:00-20:0	6	356	11.142	6	356	11.845	6	356	22.987
20:00-21:0	6	356	7.303	6	356	7.725	6	356	15.028
21:00-22:0	6	356	5.712	6	356	6.133	6	356	11.845
22:00-23:0	4	359	4.387	4	359	5.292	4	359	9.679
23:00-24:0	1	465	0.43	1	465	1.72	1	465	2.15
Daily Trip Rates:			166.496			166.106			332.602

TRICS 2013(a)v6.11.1
Trip Rate P Gross floor area

TRIP RATE for Land Use 07 - LEISURE/A - MULTIPLEX CINEMAS
Calculation Factor: 100 sqm
Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:0	5	3878	0.273	5	3878	2.073	5	3878	2.346
01:00-02:0	3	3446	0.068	3	3446	1.19	3	3446	1.258
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00									
07:00-08:00									
08:00-09:00									
09:00-10:00									
10:00-11:0	3	4555	0.549	3	4555	0.512	3	4555	1.061
11:00-12:0	4	4867	0.884	4	4867	0.539	4	4867	1.423
12:00-13:0	6	4536	1.499	6	4536	1.304	6	4536	2.803
13:00-14:0	6	4536	1.587	6	4536	1.341	6	4536	2.928
14:00-15:0	6	4536	1.323	6	4536	1.212	6	4536	2.535
15:00-16:0	6	4536	1.536	6	4536	1.297	6	4536	2.833
16:00-17:0	6	4536	1.789	6	4536	1.547	6	4536	3.336
17:00-18:0	6	4536	2.175	6	4536	1.933	6	4536	4.108
18:00-19:0	6	4536	3.961	6	4536	2.66	6	4536	6.621
19:00-20:0	6	4536	5.497	6	4536	2.506	6	4536	8.003
20:00-21:0	6	4536	5.133	6	4536	3.255	6	4536	8.388
21:00-22:0	6	4536	6.037	6	4536	5.412	6	4536	11.449
22:00-23:0	6	4536	1.4	6	4536	2.877	6	4536	4.277
23:00-24:0	6	4536	1.047	6	4536	5.342	6	4536	6.389
Daily Trip Rates:			34.758			35			69.758

TRICS 2013(a)v6.11.1
Trip Rate Parameter: Gross floor area

TRIP RATE for Land Use 07 - LEISURE/C - LEISURE CENTRE
Calculation Factor: 100 sqm
Count Type: VEHICLES

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00-01:00									
01:00-02:00									
02:00-03:00									
03:00-04:00									
04:00-05:00									
05:00-06:00									
06:00-07:00	3	1773	0.432	3	1773	0	3	1773	0.432
07:00-08:00	6	2461	0.569	6	2461	0.149	6	2461	0.718
08:00-09:00	7	2417	0.757	7	2417	0.431	7	2417	1.188
09:00-10:00	7	2417	1.07	7	2417	0.603	7	2417	1.673
10:00-11:00	9	2422	0.784	9	2422	0.762	9	2422	1.546
11:00-12:00	9	2422	0.684	9	2422	0.817	9	2422	1.501
12:00-13:00	9	2422	0.651	9	2422	0.665	9	2422	1.316
13:00-14:00	9	2422	0.835	9	2422	0.771	9	2422	1.606
14:00-15:00	9	2422	0.555	9	2422	0.665	9	2422	1.22
15:00-16:00	9	2422	0.835	9	2422	0.638	9	2422	1.473
16:00-17:00	9	2422	1.124	9	2422	0.867	9	2422	1.991
17:00-18:00	9	2422	1.895	9	2422	1.252	9	2422	3.147
18:00-19:00	9	2422	2.11	9	2422	1.578	9	2422	3.688
19:00-20:00	9	2422	1.757	9	2422	1.954	9	2422	3.711
20:00-21:00	9	2422	0.908	9	2422	1.624	9	2422	2.532
21:00-22:00	9	2422	0.197	9	2422	1.477	9	2422	1.674
22:00-23:00									
23:00-24:00									
Daily Trip Rates:			15.163			14.253			29.416

TRIP RATE FOOD & DRINK/A - HOTELS
Calculation Factor: 1 BEDRMS
Count Type: VEHICLES

Units 60

	ARRIVALS			DEPARTURES			TOTALS					
Time Rang	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	Arr	Dep	Total
00:00-01:0	0	0	0	0	0	0	0	0	0	0	0	0
01:00-02:0	0	0	0	0	0	0	0	0	0	0	0	0
02:00-03:0	0	0	0	0	0	0	0	0	0	0	0	0
03:00-04:0	0	0	0	0	0	0	0	0	0	0	0	0
04:00-05:0	0	0	0	0	0	0	0	0	0	0	0	0
05:00-06:0	0	0	0	0	0	0	0	0	0	0	0	0
06:00-07:0	0	0	0	0	0	0	0	0	0	0	0	0
07:00-08:0	5	102	0.126	5	102	0.189	5	102	0.315	8	11	19
08:00-09:0	6	91	0.219	6	91	0.245	6	91	0.464	**13**	**15**	**28**
09:00-10:0	6	91	0.192	6	91	0.221	6	91	0.413	12	13	25
10:00-11:0	6	91	0.154	6	91	0.161	6	91	0.315	9	10	19
11:00-12:0	6	91	0.104	6	91	0.143	6	91	0.247	6	9	15
12:00-13:0	6	91	0.122	6	91	0.099	6	91	0.221	7	6	13
13:00-14:0	6	91	0.101	6	91	0.144	6	91	0.245	6	9	15
14:00-15:0	6	91	0.133	6	91	0.183	6	91	0.316	8	11	19
15:00-16:0	6	91	0.15	6	91	0.115	6	91	0.265	9	7	16
16:00-17:0	6	91	0.177	6	91	0.168	6	91	0.345	11	10	21
17:00-18:0	6	91	0.26	6	91	0.197	6	91	0.457	**16**	**12**	**27**
18:00-19:0	6	91	0.19	6	91	0.13	6	91	0.32	11	8	19
19:00-20:0	4	113	0.223	4	113	0.164	4	113	0.387	13	10	23
20:00-21:0	4	113	0.077	4	113	0.095	4	113	0.172	5	6	10
21:00-22:0	2	129	0.054	2	129	0.136	2	129	0.19	3	8	11
22:00-23:0	0	0	0	0	0	0	0	0	0	0	0	0
23:00-24:0	0	0	0	0	0	0	0	0	0	0	0	0
Daily Trip Rates:			2.282			2.39			4.672	137	143	280

1. INTRODUCTION

1.1 Symonds has been appointed to carry out an Environment Impact Assessment for a major strategic development at Ty Mawr, Holyhead on behalf of the Welsh Development Agency. (Figure 1)

1.2 Symonds' commission builds on a previous study carried out by them and reported in 1999. Within that study, the traffic effects were considered in broad principle and recommendations made as to form of access, traffic effects and extent of development.

1.3 During the 1999 study, consultations were carried out with the National Assembly for Wales, UK Highways (as operators of the A55) and Ynys Mon Highways Department, attached in Appendix D is a copy of the response from the Council. The consultations identified no obstacles to accessing the development.

1.4 Following the study, an access layout was developed which provided a link between the A5, via the A55, to the B4545 to Trearddur Bay. Both the local Highway Authority and National Assembly for Wales saw great benefit in the link and it is this arrangement, which is analysed, in greater detail within this report.

2. EXISTING CONDITIONS AND TRANSPORT INFRASTRUCTURE

General

2.1 The site is located to the immediate south of Holyhead settlement limits on the Isle of Anglesey. It comprises open farmland bounded to the east by the recently constructed A55. To the north, the boundary is formed by housing on the edge of Holyhead while to the west; the B4545 between Holyhead and Trearddur limits the site extent. (Figure 2)

2.2 In its northeast corner lies the A55 Ty Mawr Interchange from which runs a link road leading past the Penrhos Industrial Estate to a roundabout on the A5.

2.3 On the east side of the A55 runs the main Holyhead – Chester – London Railway and the railway terminal is located about 1km to the north.

2.4 Through the heart of the site runs Lon Trefignath, a narrow winding rural lane that runs from Kingsland in Holyhead to Trearddur Bay.

The Road Network

A55

2.5 The A55 is a dual carriageway, serving as a national distributor road connecting Holyhead port with the welsh mainland and the motorway network in England. It is classified as Euroroute E22 which runs from Dublin to Sassnitz in Poland.

2.6 The Ty Mawr Interchange is a diamond double roundabout junction catering for all movements and constructed to modern standards.

Penrhos Link Road

2.7 This Link Road was upgraded and extended as part of the A55 project. It is 7.3m wide with 1m hard strips and 2m footpaths to either side.

2.8 Mid way along the link is the junction to Penrhos Industrial Estate, incorporating ghost islands and a right turn lane. This junction also provides access to the Penrhos Retail Park which has recently been implemented. As such, the local Highways Authority has accepted that there is adequate traffic capacity for this relatively modest development.

2.9 The link connects to the A5 at a roundabout constructed to facilitate the Tesco development.

2.10 Planning permission has been granted for both retail development (Morbaine) and industrial development (Ynys Mon County Council) on Penrhos Industrial estate. Parts have been implemented on the site, however this was complete before the traffic surveys were undertaken. The two developments comprise of the following:

Morbaine	6,000 sq.m non-food retail
	836 sq.m pub
	326 sq.m fast food
Ynys Mon	6,540 sq.m industrial development
	Civic Amenity Site

Cyttir Road

2.11 To the north of the Tesco roundabout lies Cyttir Road. This road passes through an area of mixed development including residential, industrial and commercial property as well as Kingsland Junior School. The mix of uses, particularly at school time, when a school crossing patrol is on duty, can cause local problems.

2.12 The junction of Cyttir Road with the A5 is far from ideal. The visibility northward towards Holyhead town centre is substandard, obstructed by property boundaries. To its immediate north is a significant access to the Prince of Wales Public House and restaurant with the access to the hospital, Penrhos Beach Road, to the immediate south.

2.13 Penrhos Link Road and Cyttir Road form the signed route from the A55 to Trearddur.

2.14 Pedestrian facilities along Cyttir Road are limited where it crosses the A55 with a footpath provided only on the northern side.

B4545 Kingsland Road

2.15 This road runs from Black Bridge junction (where the A5 and A55 meet) through Trearddur back to the A5 at Valley Crossroads. To the north of Cyttir Road, it is approximately 6m wide, widening significantly at the junction itself. North of the junction, the road follows a sharp vertical hug curve, limiting visibility. Here, parking is restricted either side.

2.16 The junction with Cyttir Road is staggered with an access to the housing development opposite. Visibility to the north is severely restricted by properties fronting the footway.

2.17 The junction mouth itself is extremely wide, making it difficult on occasion for pedestrians to cross safely.

2.18 To the south of Cyttir Road, the B4545 passes the Holyhead Leisure Centre, which lies, on the edge of the settlement. This has another extremely wide junction with its access and visibility to the south is very much limited by stone walls.

Lon Trefignath

2.19 Lon Trefignath is a narrow, winding country lane, approximately 2.5m wide, bounded by grass verges and stone walls. It is much used by walkers and, indeed, is crossed by a footpath that runs from the A55 Ty Mawr Interchange to the B4545 near the Leisure Centre.

2.20 The northern end of Lon Trefignath is urban in nature due to the presence of Kingsland School. At school leaving times, this area is parked up with cars and is very busy.

Rail

2.21 The London - Holyhead main line railway runs alongside the A55 to its terminus at Holyhead port, about 1km to the north. Services operate generally at hourly intervals to/with connections to Liverpool, Manchester, Birmingham and London.

2.22 Trains are also timed to connect with ferries to Ireland while a bus connection is available connecting the port/station to the town. These services are no's 21 and 24 which sometimes divert to the station, approximately 4 times per day.

2.23 Although there is little, if any, rail freight facility at the port at present, there are aspirations to reopen the facility sometime in the future. In the meantime, a little used rail freight facility has been constructed south east of Valley

Public Transport

2.24 A number of public bus services pass close to the site (Appendix A includes a bus route map):

4/44 Holyhead to Bangor via Tesco, Trearddur and Llangefni – approx. half hourly

21 "Town Bus" serving Tesco, Llaingoch, Treseifion – approx. half hourly

23 Holyhead to Rhosneigr via Trearddur – approx. hourly

24 Holyhead to Morawelon and Tesco – approx. hourly

25 Holyhead to Rhosneigr via Tesco – approx. hourly

61 A5 via Tesco – approx. two hourly

Services 4, 21 and 44 serve Cyttir Road

Services 4, 23, 25 and 44 serve B4545 and Trearddur Bay providing an approximately half hourly or better service

Services 21, 24, 25, 44 and 61 serve Tesco and the end of Penrhos Link

Cycling

2.25 National Cycle Network Route 8 follows the Stanley Embankment and the A5, from Valley to Holyhead, by way of Cyttir Road.

2.26 Apart from the National Cycle network, no further provision exists for cyclists although Ynys Mon County Council is presently developing its network and many of the roads near to the site are lightly trafficked making them safe and attractive to use by cyclists.

Walking

2.27 There is an existing footpath crossing the site between Ty Mawr Junction and the Leisure Centre, which will be retained as part of the development proposals. Further pedestrian provision exists on the B4245 to the west with well maintained 2m footways. Lon Trefignath is well used by pedestrians, and will be retained as part of the development proposals.

Air Transport

2.28 The MoD operate two facilities on Anglesey, namely Valley and Mona. Mona is also used for private flying. There has been some thought in the past of expanding usage into the commercial field. However, the demand for such use has precluded this to date.

3. ACCIDENT STATISTICS

3.1 Accident statistics for the Black Bridge, B4545, A5 triangle have been obtained from the Highway Authority for the 3 year period 1999 to 28 February 2002.

3.2 Inspection of the accident data indicates a cluster of incidents at the Black Bridge area that is to be expected given the number of junctions and manoeuvres. It is too early to see any trend following opening of the A55. The proposals will remove a small amount of traffic from the Black Bridge area.

3.3 Three accidents occurred at the B4545/Cyttir Road junction while a small number of accidents occurred along the length of Cyttir Road. It is not possible to identify a clear cluster of accidents. However, removal of traffic off Cyttir Road will tend to reduce the incidence of accidents.

3.4 The accident data are included within Appendix B.

4 DEVELOPMENT PROPOSALS

Development Schedule

4.1 Further details of the proposed development is given later in this Chapter, however to summarise, it is proposed to provide a mixed use development comprising of the following:

- 30,000 ft² (2,787 m²) Hotel
- 328,900 ft² (30,555 m²) of Business (B1)
- 603,300 ft² (56,047m²) of Business/General Industry (B1/B2)
- 50,000 ft² (4,645 m²) of Leisure
- 15,000 ft² (1,394 m²) Roadside Café/Fastfood
- 4,000 ft² (372 m²) Creche

4.2 The total development floor spaces is around 1,031,200 ft² or 95,800 m²

Proposed Infrastructure to serve the site

4.3 Access to the site is intended by way of a new arm, built off Ty Mawr Interchange. This link would extend to the B4545 in the vicinity of the Leisure Centre with a central roundabout providing the main access to the site, see Drawing No 49430/TM/01/P1 in Appendix A.

4.4 A network of footways and cycleways will be provided throughout the site. Lon Trefignath will be retained through the site and emergency vehicular access permitted from the development to Lon Trefignath. The draft masterplan is included as Drawing No 56080/ES/02/P1.

4.5 Whereas it is not intended that Lon Trefignath will be closed to motor traffic, signing and junction geometry will be designed such as to deter site users from using the lane. With the standard of access available from elsewhere, it is likely that the attraction to use the road will be minimal. Nevertheless, the opportunity exists in the future to restrict its use by Traffic Regulation Order, should the highway authority think it necessary. A connection will be made to Lon Trefignath to the south of the development to serve as an emergency access. It will be necessary to impose physical restrictions to the junction design to limit its general use and avoid rat running.

inconsistency with non report 5.3.15

4.6 Bus stopping areas and turning areas will be provided within the site on a phased basis to cater for future bus services. In particular, bus stops will be provided on the new link between Ty Mawr junction and B4545.

Change In Travel Patterns

4.7 The traffic patterns in the area, as a result of the development proposals, will change with the construction of the new Penrhos Link Road, which is proposed to be extended to connect the Ty Mawr Interchange with the B4545.

4.8 A methodology and approach has been devised to estimate the likely effect the new link road will have on the travel patterns on the existing highway network. The following assumptions have therefore been made:

- 80% of traffic turning between B4545(S) and Cyttir Road will transfer to the link. It is assumed that the remaining 20% of traffic is school or other traffic. This may be an underestimate so the traffic assessment of the new Penrhos Link road is likely to be robust.

- 50% of traffic turning between B4545 and the A55 at Black Bridge roundabout will use the new link.
- 10% of traffic turning left for B4545 into Cyttir Road will transfer to the new link. The remainder is assumed to be local and school traffic.

4.9 The above assumptions are summarised in Figure T2 attached.

4.10 Details of traffic counts carried out in May 2002 are included within Appendix C.

4.11 Fully classified counts between 0730 to 0930 & 1600 to 1800 were taken on a mid-week day during term time at:

- Junction of B4545 and Cyttir Road
- Ty Mawr junction excluding A55 through traffic
- A5/Penrhos Link junction.

4.12 In addition fully classified counts were taken covering the same periods for the following movements:

- Right turning traffic from Cyttir Road into A5
- Left turning traffic from A5 into Cyttir Road
- Right turning traffic from B4545 into A55 at the Kingsland Roundabout
- Left turning traffic from A55 into B4545 at the Kingsland Roundabout

4.13 Figures T1a and T1b detail the existing traffic surveys for the morning and evening peak periods.

4.14 Figures T3a and T3b detail the effects of the construction of the proposed link road to connect Ty Mawr Interchange with the B4542, adopting the methodology set out in Paragraph 4.8.

Committed Development

4.15 Allowance has to be made for the existing retail and employment consents on Penrhos industrial estate, elements of which have been have implemented. Given that the traffic surveys were undertaken before any of the committed development was implemented an estimation of the committed development trips has been made. The following three elements to the committed development have been identified:

- Morbaine Development (including 6,000 m^2 non food retail, theme public house and a fast food restaurant)

- 32,000 ft² non food development – adjacent to the Morbaine Development, facing onto Penrhos Link
- 84,800 ft² light industrial to the rear of the Penrhos Retail Park

4.16 The table below summarises the trip generation rates calculated for the assessment periods.

Site	Land Uses	AM Peak		PM Peak		Reference
		Arr	Dep	Arr	Dep	
Morbaine	Non food retail	0	0	137	137	Trips obtained from MJMC TA (September 1998)
	Theme public house	0	0	64	40	
	Fast food	0	0	74	74	
Non food		0	0	67	67	Calculated using trip rates from MJMC TA
Light Ind.		54	13	7	46	Trips calculated using Symonds trip rates
Total		54	13	349	364	

4.17 The above trips have been distributed by assuming that 62% would use the A55 Ty Mawr interchange and 38% the A5 Tesco roundabout.

4.18 At the A55 Ty Mawr Interchange, 76-81% would come from, go towards Holyhead and the remainder to and from Bangor. At the A5 Tesco roundabout, 61% would come from the Bangor direction and 39% from Holyhead.

4.19 Extending the trunk road to the B4545 Trearddur Bay will divert some traffic going to or coming from the Morbaine development from A5 Tesco Roundabout but the proportion is likely to be small in relation to overall flows and unlikely to cause significant effects outside the normal fluctuations of traffic.

4.20 No account has been taken of shared trips, i.e., those people which might visit two facilities on one trip. This would certainly tend to reduce generated traffic levels associated with the civic amenity site.

4.21 Figures T4a and T4b summarise the committed development trips described above.

Proposed Development Trip Generation

4.22 It is envisaged that the fully developed site will comprise the following development floor spaces.

Table 4.1 – Summary of Development Schedule

Summary of Development Footprint	**Classification**	**Development Gross Footprint (sq ft)**	**Development Gross Footprint (sq m)**
Hotel	C1	30,000 ft²	2,787 m²
Business	B1	328,900 ft²	30,555 m²
Business/General Industry	B1/B2	603,300 ft²	56,047 m²
Leisure	D2	50,000 ft²	4,645 m²
Roadside	A3	15,000 ft²	1,394 m²
Creche	D1b	4,000 ft²	372 m²
Total Development Floorspace		**1,031,200 ft²**	**95,800 m²**

4.23 Recognising the potential for development on more than one storey, Welsh Development Agency has advised as to the likely extent of multi-storey development.

4.24 Plot A is composed of smaller units. It has been assumed that, potentially, the whole of the development could be two storey or three.

4.25 B1 units on plots B and C have potential for 80-100% additional floor space on upper storeys while B1/B2 units have been assumed to have smaller element of space on upper storeys.

4.26 A crèche will be located within plot B and will serve employees of the development, it is has therefore been concluded that this facility will not generate any new trips.

4.27 The following table summarises the above.

Table 4.2 – Detailed Development Schedule

TY MAWR DEVELOPMENT FOOTPRINT					
PLOT	FOOTPRINT (ft²)	FOOTPRINT (m²)	PERCENTAGE POTENTIAL ADDITIONAL FLOORSPACE ON UPPER FLOOOR	GROSS FLOOR AREA OF BUILDING (ft²)	GROSS FLOOR AREA OF BUILDING (m²)
PLOT A					
A1	30000	2787	N/A	30000	
A2	25000	2323	100	70000	2323
A3	35000	3252	100	35000	3252
A4	17500	1626	100	40000	1626
A5	20000	1858	100	20000	1858
TOTAL FOOTPRINT A	127500	11845			
GROSS FLOORSPACE PLOT A				195000	18118
PLOT B					
B1	5000	465	N/A	5000	465
B2	5000	465	N/A	5000	465
B3	5000	465	N/A	5000	465
B4	10000	929	50	15000	1394
B5	35000	3252	N/A	35000	3252
B6	25000	2323	100	50000	4646
B7	15000	1394	80	27000	2509
B8	4000	372	N/A	4000	372
TOTAL FOOTPRINT B	104000	9662	N/A		
GROSS FLOORSPACE PLOT B				146000	13558
PLOT C					
C1	21500	1997	60	34400	3195
C2	35000	3252	20	42000	3902
C3	15000	1394	50	22500	2091
C4	35000	3252	20	42000	3902
C5	22000	2044	40	30800	2862
C6	35000	3252	30	45500	4227
TOTAL FOOTPRINT C	163500	15189			
GROSS FLOORSPACE PLOT C				217200	20179
PLOT D					
D1	30000	2787	20	36000	3344
D2	22500	2090	20	27000	2508
D3	100000	9290	20	120100	11157
TOTAL FOOTPRINT D	152500	14167			
GROSS FLOORSPACE PLOT D				183100	17009
PLOT E					
E1	25000	2325	20	29900	2671
E2	200000	18580	15	230000	21367
TOTAL FOOTPRINT E	225000	20903			
GROSS FLOORSPACE PLOT E				259900	24038
TOTAL FOOTPRINT	**772500**	**71779**			

	KEY	Gross Floor area (ft²)	Gross Floor area (m²)
	Hotel	30000	2787
	Food and Drink	15000	1394
	B1/B2	603300	56047
	D2	50000	4645
	B1	328900	30555
	D1b	4000	372
	TOTAL	**1031200**	**95800**

4.28 The following section of this report sets out the proposed trip generation figures, which have been derived from the TRICS v 4.7 database. The floor areas associated with each of the plots are based on the table shown on the previous page.

Roadside Fast Food

4.29 The proposed development footprint shows that there will be three individual fast food restaurants each of 465m^2 and totalling 1395m^2. For the purpose of predicting trip generation characteristics two types of development have been studied. These developments are typically McDonalds and Little Chef. As can be expected, both provide different trip rates each shown separately below.

Table 4.3 – Fast Food Trip Rate Summary

Roadside Fast Food	**AM**		**PM**	
Trips per 100m^2	**IN**	**OUT**	**IN**	**OUT**
McDonalds	3.35	2.38	17.89	16.33
Little Chef	4.04	3.43	5.49	4.24
Total Trips 1395m^2	**IN**	**OUT**	**IN**	**OUT**
If all McDonalds	47	33	250	228
If all Little Chef	56	48	77	59
50/50 combination	52	41	164	144

4.30 It is commonly accepted that few trips to fast food type restaurants or Little Chef restaurants are primary trips and many are passby trips. In this instance it is expected that the majority of trips to the restaurants will be passby trips from the A55. For the purposes of the assessment it is assumed that 50% of the trips are passby, diverted from the A55.

Hotel

4.31 For a 60 bed hotel the following trip rates per room have been adopted.

Table 4.4 – Hotel Trip Rate Summary

Hotel	**AM**		**PM**	
Trip rate per room	**IN**	**OUT**	**IN**	**OUT**
Hotel	0.18	0.16	0.25	0.18
Total Trips 60 rooms	**IN**	**OUT**	**IN**	**OUT**
Hotel	11	10	15	11

Leisure

4.32 Two leisure development sites are shown within the Proposed Development footprint. For analysis purposes, the largest site (3250m^2) is assumed to be a multiplex cinema and the smaller site (1394m^2) is assumed to be a health and fitness centre. The cinema development does not produce any trips in the am peak.

Table 4.5 – Leisure Development Trip Rate Summary

Leisure	**AM**		**PM**	
Trips per 100m^2	**IN**	**OUT**	**IN**	**OUT**
Cinema	0	0	2.35	2.29
Leisure Centre	1.18	0.8	2.61	2.34
Total Trips	**IN**	**OUT**	**IN**	**OUT**
Cinema (3250m^2)	0	0	76	74
Leisure Centre (1394m^2)	16	11	36	33

Office use/Industrial use

4.33 The greater part of the development is allocated to Business (B1) and General Industry (B1/B2) respectively. Trip rates for each of these are provided in the table below. The proposals include a minimum of 30,555m^2 of Business use being developed, with 56,047 m^2 of mixed B1/B2 use.

Table 4.6 – Office Development Trip Rate Summary

Office/Industrial	**AM**		**PM**	
Trips per 100m^2	**IN**	**OUT**	**IN**	**OUT**
Office Use B1	1.66	0.21	0.26	1.34
Industrial B2	0.32	0.09	0.06	0.34
Total Trips	**IN**	**OUT**	**IN**	**OUT**
B1 (30555m^2)	507	64	79	409
B2 (56047m^2)	179	50	34	191

4.34 For the purposes of this assessment, we have used the following trip generation figures.

Table 4.7 – Total Trip Generation

	AM		**PM**	
	IN	**OUT**	**IN**	**OUT**
Roadside Fast Food	52	41	164	144
Hotel	11	10	15	11
Leisure	16	11	112	107
B1	507	64	79	409
B2	179	50	34	191
TOTAL	**765**	**176**	**404**	**862**

Proposed Development Trip Distribution

4.35 Of necessity, the Origin and Destination figures for generated and diverted traffic are assumptions only. The proportions are derived as follows:

4.36 A judgement has been made with regard to the Origin/Destination of generated traffic on the strategic network accordance with the following table.

Table 4.8 – Strategic Trip Distribution

		B4545	A55	A5
Fast Food	18%	30%	40%	30%
Hotel	2%		100%	
Leisure	11%	30%	40%	30%
Office B1	33%	30%	40%	30%
Industry B2	36%	20%	60%	20%
TOTAL		25%	50%	25%

4.37 The above was based on a further judgement of the classification of the surrounding areas – local/long distance, rural, urban housing, urban business, etc.

4.38 For the purposes of this assessment, and using the distribution described in Table 4.8 above, the following local distribution have been assumed for traffic generated by the development.

Table 4.9 - Local Trip Distribution

B4545	North	50%
	South	50%
A55	North	10%
	South	90%
A5	North	20%
	South	80%

4.39 The trip distribution is summarised in Figure T5.

Proposed Trip Assignment

4.40 The total development trips detailed in Table 4.7 have been assigned to the network adopting the trip distribution summarised in Tables 4.8 and 4.9.

4.41 The development trips are summarised in Figures T6a and T6b for the weekday morning and evening peak periods.

5.0 HIGHWAY CAPACITY ASSESSMENT

Assessment Years

5.1 An opening year assessment at 2005 has been undertaken and a sensitivity test at 2020 for the proposed new infrastructure.

5.2 The forecast future growth has been calculated using National Road Traffic Forecasts (1997), assuming central growth. These figures have then been adjusted using local growth factors from the TEMPRO database. The following growth factors have been adopted for the purposes of this assessment:

Table 5.1 – Growth Factors

	AM Peak	PM Peak
2002 - 2005	1.021	1.021
2002 - 2020	1.075	1.077

5.3 Figures T7a & T7b detail the 2005 growth based flows and Figures T8a & T8b detail the 2020 growth based flows (i.e. applying the above growth factors to Figures T3a and T3b).

Design Flows

5.4 The design flows have been derived by adding the growthed survey flows for the appropriate design year, which include the reassignment of trips to new link road; the committed development trips (Figures 4a and 4b) and the development trips (Figures 6a and 6b).

5.5 The design flows for the 2005 opening year are summarised in Figures T9a and T9b. The 2020 sensitivity test design flows are summarised in Figures T10a and T10b

5.6 The following junctions have been assessed with the 2005 design flows:

- New Link with the B4245 - Roundabout Junction
- New Link with the proposed site access - Roundabout Junction
- Penrhos Link with A55 northbound off slip - Roundabout Junction
- Penrhos Link with A55 southbound off slip - Roundabout Junction
- Penrhos Link with Tesco Access - Roundabout Junction

5.7 The following junctions have been assessed using the sensitivity test future year design flows:

- New Link with the B4245 - Roundabout Junction
- New Link with the proposed site access - Roundabout Junction
- Penrhos Link with A55 northbound off slip - Roundabout Junction

Capacity Assessment

5.8 The flows detailed in Figures T9a and T9b have been assessed using the industry accepted ARCADY programme. Appendices T1 to T5 contain the ARCADY output for the 2005 design year flows for the five junctions described above and the table below summarises the maximum RFC and queuing for the AM and PM weekday peak periods.

Table 5.2 – 2005 Design Assessment

Roundabout Junction	Peak hour 2005	Max RFC	Max Queue length (Veh)
New Link with the B4245	a.m	0.373	0.6
	p.m	0.388	0.6
New Link with the proposed site access	a.m	0.805	3.8
	p.m	**0.875**	**6.4**
Penrhos Link with A55 northbound off slip	a.m	0.456	0.8
	p.m	**0.872**	**6.2**
Penrhos Link with A55 southbound off slip	a.m	0.452	0.8
	p.m	0.645	1.8
Penrhos Link with Tesco Access	a.m	0.333	0.5
	p.m	0.762	3.1

5.9 The maximum RFC predicted to occur for the 5 junctions is within the recommended maximum theoretical capacity of 1.0 but the site access junctions and the Penrhos Link junction with the A55 northbound off slip are found to exceed the design threshold of 0.8 However, the RFC value is only just over 0.85 and demand is well within the total capaci of the junction.

5.10 If it is seen fit, during the detailed design of the highway infrastructure, the geometry of th junction can be adjusted to ensure the junction operates within 0.85.

Sensitivity test

5.11 A future year assessment, adopting a 15-year design horizon, has been undertaken for 2020. The flows detailed in Figures T10a and T10b have been assessed at the new site access junction, the new junction with the B4542 and the junction with the Penrhos Link and the A55 northbound off slip. Appendices T6, T7 and T8 contain the output from the ARCADY assessment carried out for each of the junctions, respectively, and the table below summarises the results from the assessment.

Table 5.3 – 2020 Design Assessment – Sensitivity Test

Junction	Peak hour 2020	Max RFC	Max Queue length
New Link with the B4245	a.m	0.385	0.6
	p.m	0.396	0.7
New Link with the proposed site access	a.m	0.806	4.0
	p.m	**0.876**	**6.5**
Penrhos Link with A55 northbound off slip	a.m	0.463	0.9
	p.m	**0.883**	**6.8**

5.12 It is clear from the table above that the proposed new highway infrastructure will operate within the theoretical maximum RFC of 1.0 but slightly exceeds the design threshold of 0.85 in the future year 2020.

5.13 If it is seen fit, during detailed design of the highways infrastructure, the geometry of the junction can be adjusted.

6.0 ACCESSIBILITY

Walking

6.1 Full provision will be provided for pedestrians within the site. Where appropriate, segregated pedestrian routes will be provided. Lon Trefignath will provide a walking route to the Kingsland area to the North and Trearddur to the South.

6.2 A network of paths has been provided for within the proposals, not only to provide access to the proposed development but also to provide leisure and exercise facility. Visitors to the Ancient Monuments on the site would be able to use the proposed pedestrian links, as well as those who are employed on the site.

Cycling

6.3 Cycle routes will be provided in conjunction with the walking routes. It is proposed that shared cycle pedestrian routes are provided through the spine of the development. The route will connect into Lon Trefignath, which will provide a cycling route to the Kingsland area to the North and Trearddur to the South

6.4 The access road crossings of Lon Trefignath will be designed so as to discourage traffic turning into or out of Lon Trefignath to and from the site.

Bus Transport

6.5 It is important that allowance be made for a bus service to the site. It is proposed to provide bus stop facilities within the site as the site development progresses. In the shorter term, it is envisaged, as at other WDA sites such as Parc Menai, the local bus operator will see a demand within the site and will cater for that demand. The link from the B4545 to Penrhos will provide further options for a bus service to serve both the Ty Mawr and Penrhos sites.

6.6 With existing services as they are, a bus service is provided to within 400m of all of Plots A and B and Plots C1 to C5. In the longer term, bus stops would be provided within the body of the site to serve all plots.

6.7 Serious consideration has been given to providing a through route for buses. However, a number of factors mitigate against this provision. The most likely option would have been to provide a link to the B4545 through Plot D. However, it is felt that such a link would compromise the "green wedge" which the Planning Authority and Countryside Council for Wales are seeking to protect. The land involved is also outside the control of the Welsh Development Agency and its purchase is likely to render the whole development marginal in economic terms. For these reasons, such a provision has not been possible.

7. SUMMARY AND CONCLUSIONS

Summary

7.1 The site is strategically located alongside the newly constructed A55 dual carriageway (Euroroute E22) giving linkage to the wider motorway network and providing a direct and "insensitive" route, especially for HGV's, to and from the site.

7.2 It is well served by the local road network, which will be enhanced by the construction of a new link for B4545 Kingsland Road to Ty Mawr Interchange. This link will offer some traffic relief at the Black Bridge junction and along Cyttir Road.

7.3 The proposals incorporate comprehensive walking and cycling routes. Lon Trefignath will be retained as part of the development and will serve as a good quality walking and cycling route with restricted access into the site. The southern section of Lon Trefignath will be open to emergency vehicle use.

7.4 The scheme will reduce traffic volumes along Cyttir Road and possibly at Black Bridge, which in turn could reduce the propensity for accidents to occur.

7.5 The impact of the addition trips generated by the development, in the morning and evening peak periods, has been tested at an opening year of 2005. A sensitivity test has also been undertaken at a future year of 2020.

7.6 This report demonstrates that the proposed infrastructure can safely accommodate the proposed development trips, and the impact of the development on the wider network would be minimal.

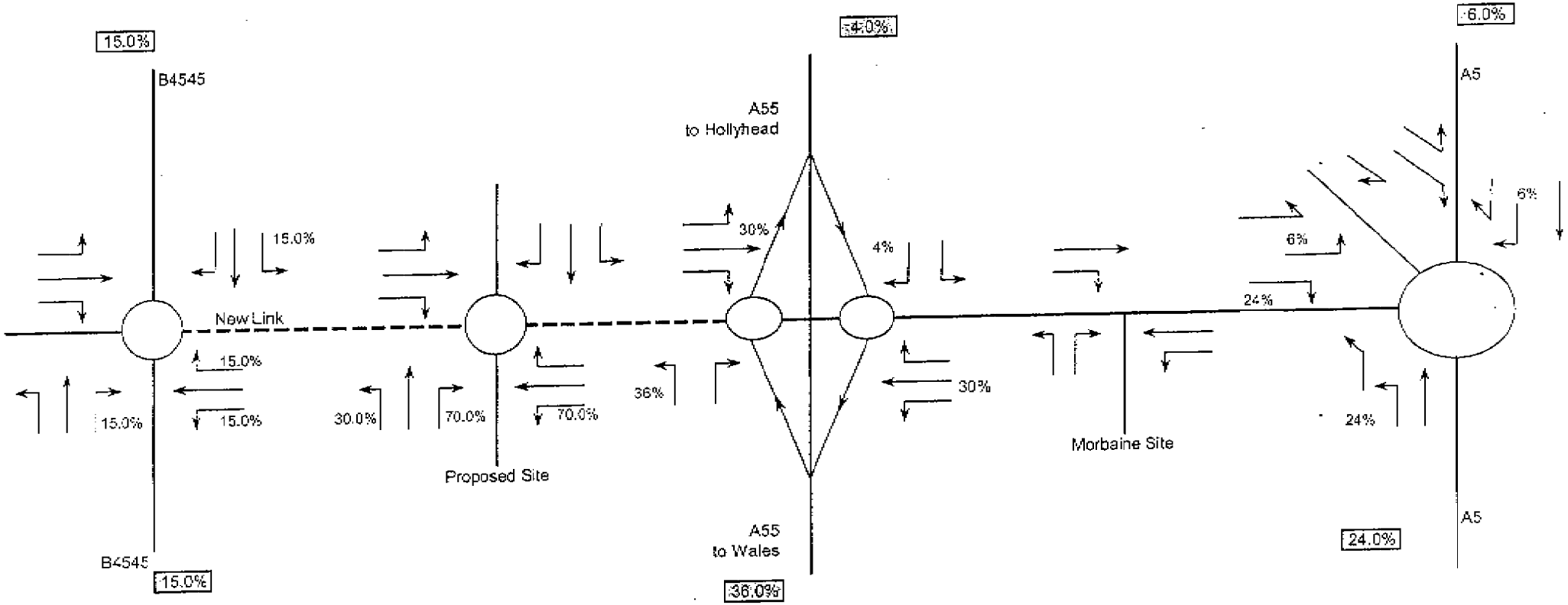
Conclusions

7.7 In light of the above it is considered that there are no traffic or transportation grounds for refusal of the planning application.

Ty Mawr Development

Welsh Development Agency

Development Trips - Distribution



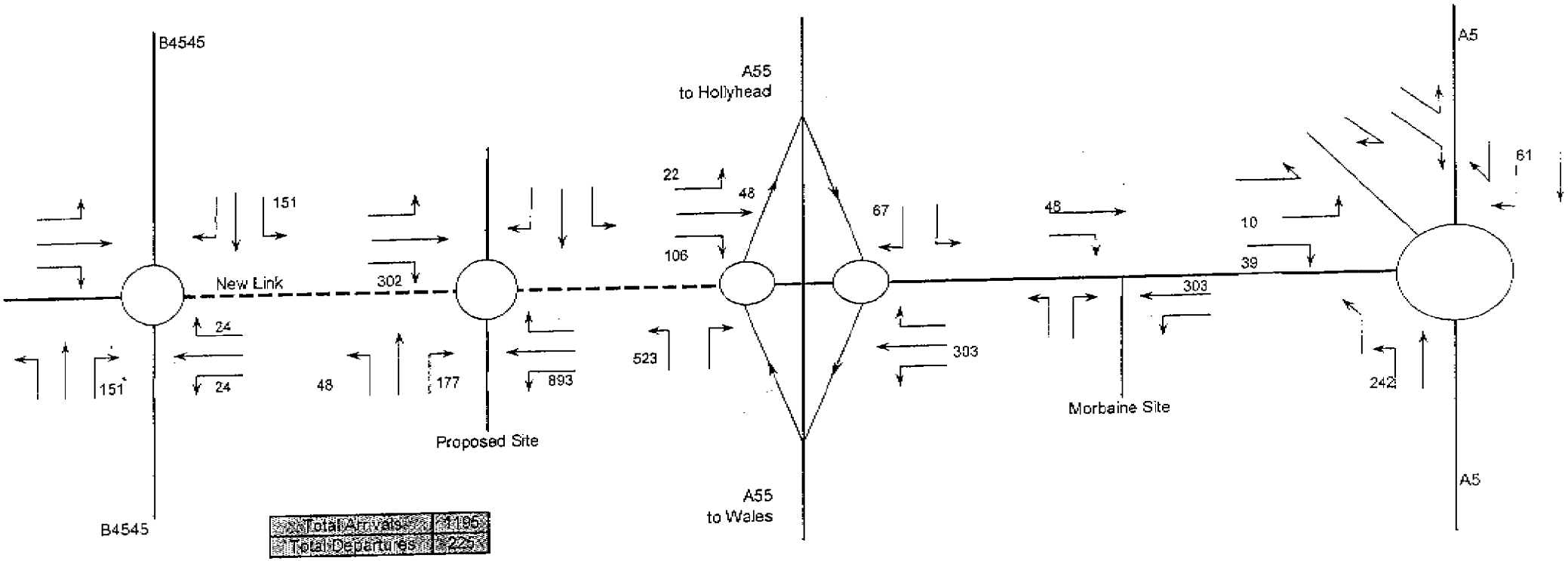
Development flows.xls

Figure T5 : Development Trips Distribution

Ty Mawr Development

Welsh Development Agency

Total Development Trips - AM Peak



Notes

Total Development Trips = Fast Food Trips + Hotel Trips + Leisure Trips + B1 Trips + B2 Trips
Small rounding errors found - however considered acceptable

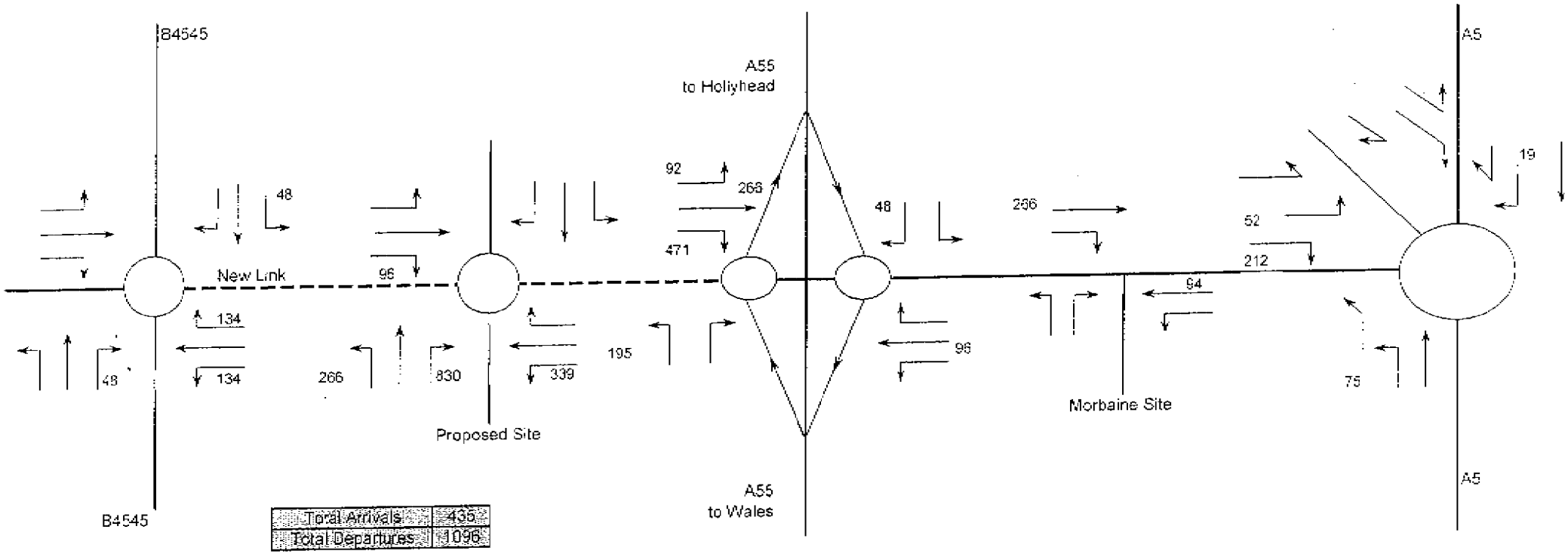
Development flows.xls

Figure T6a : Development Trips – AM Peak

Ty Mawr Development

Welsh Development Agency

Total Development Trips - PM Peak



Notes

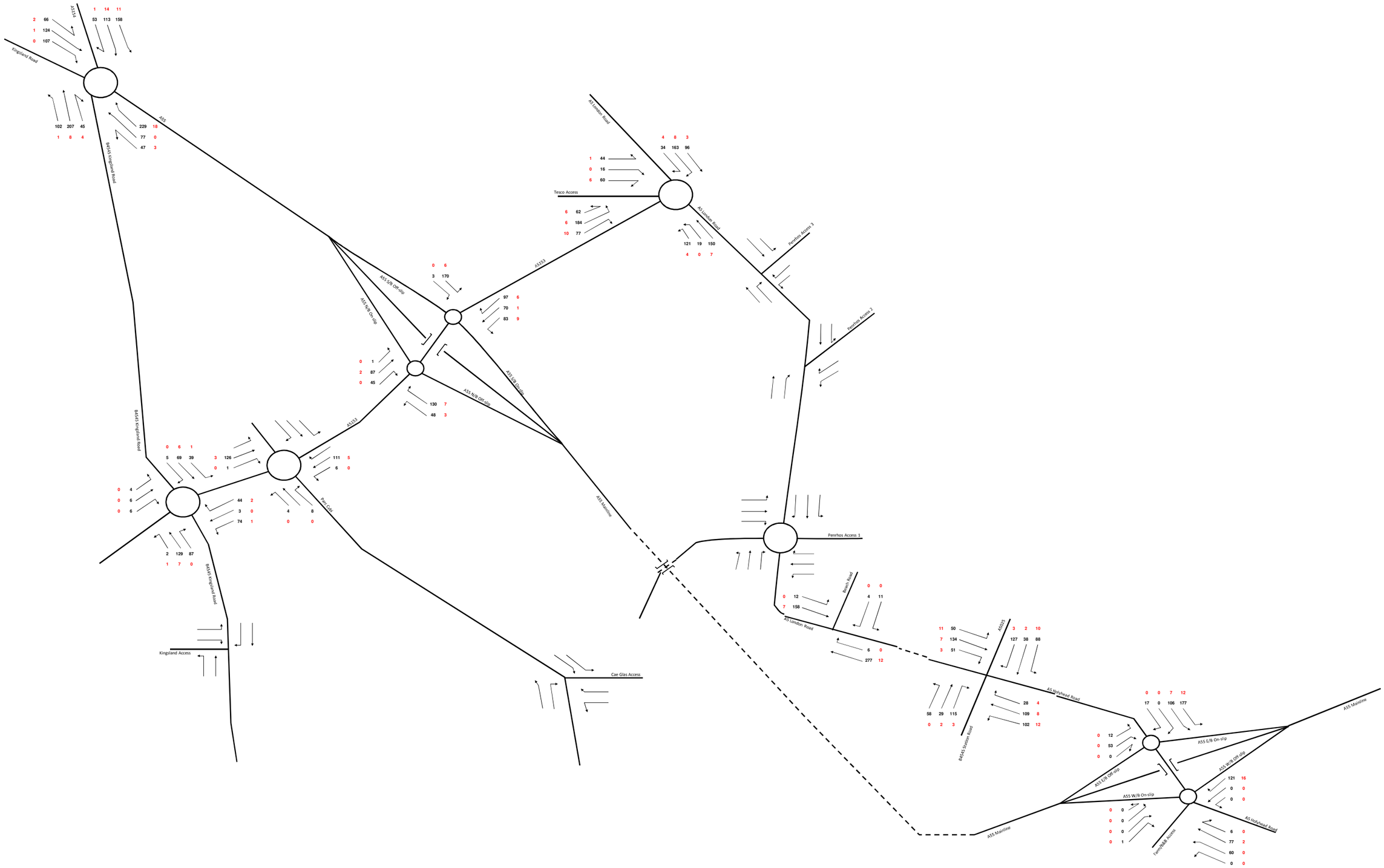
Tota Development Trips = Fast Food Trips + Hotel Trips + Leisure Trips + B1 Trips + B2 Trips
Small rounding errors found - however considered acceptable

Development flows.xls

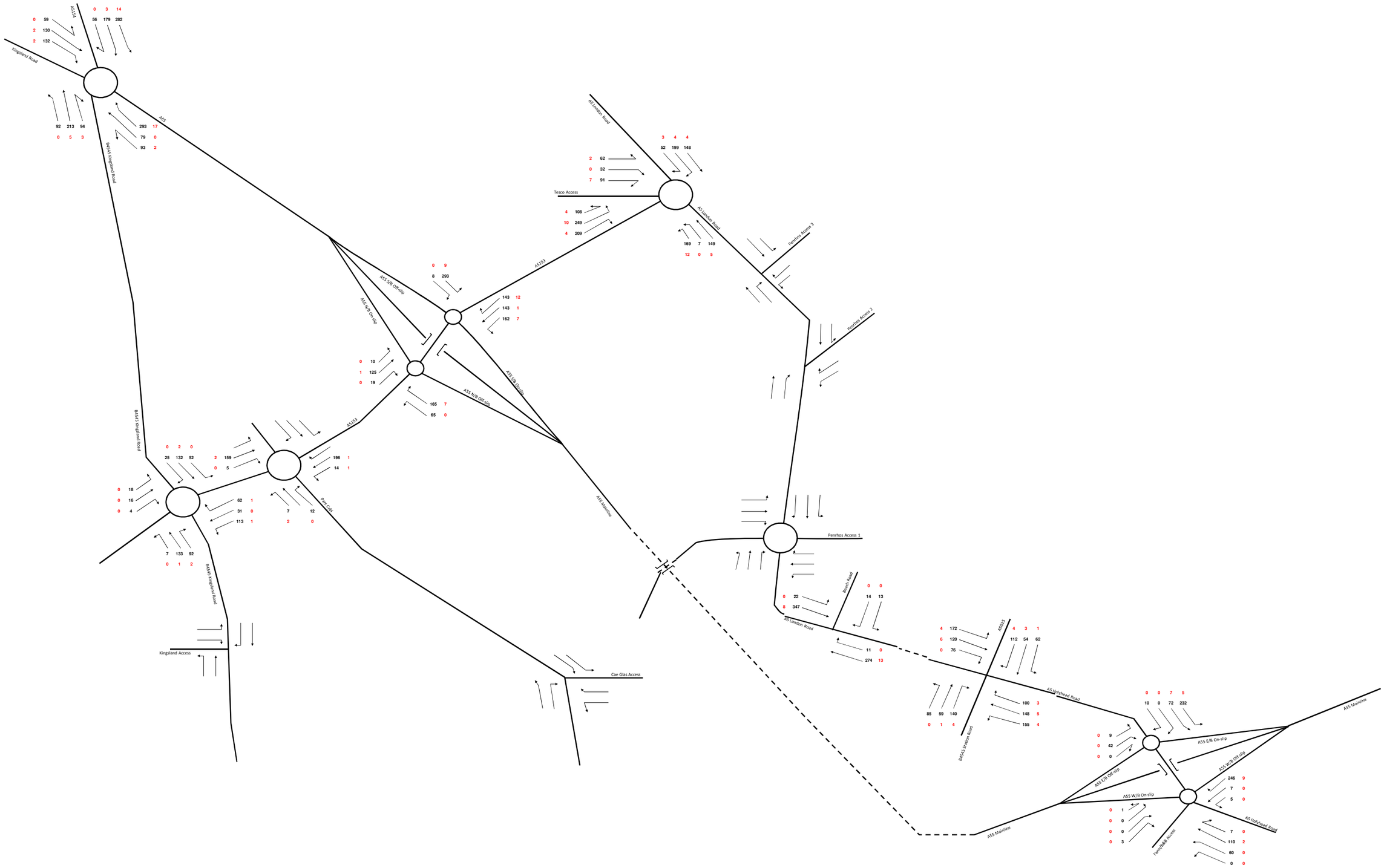
Figure T6b : Development Trips – PM Peak

Appendix B – Revised Traffic Impact Figures (Sensitivity Test)

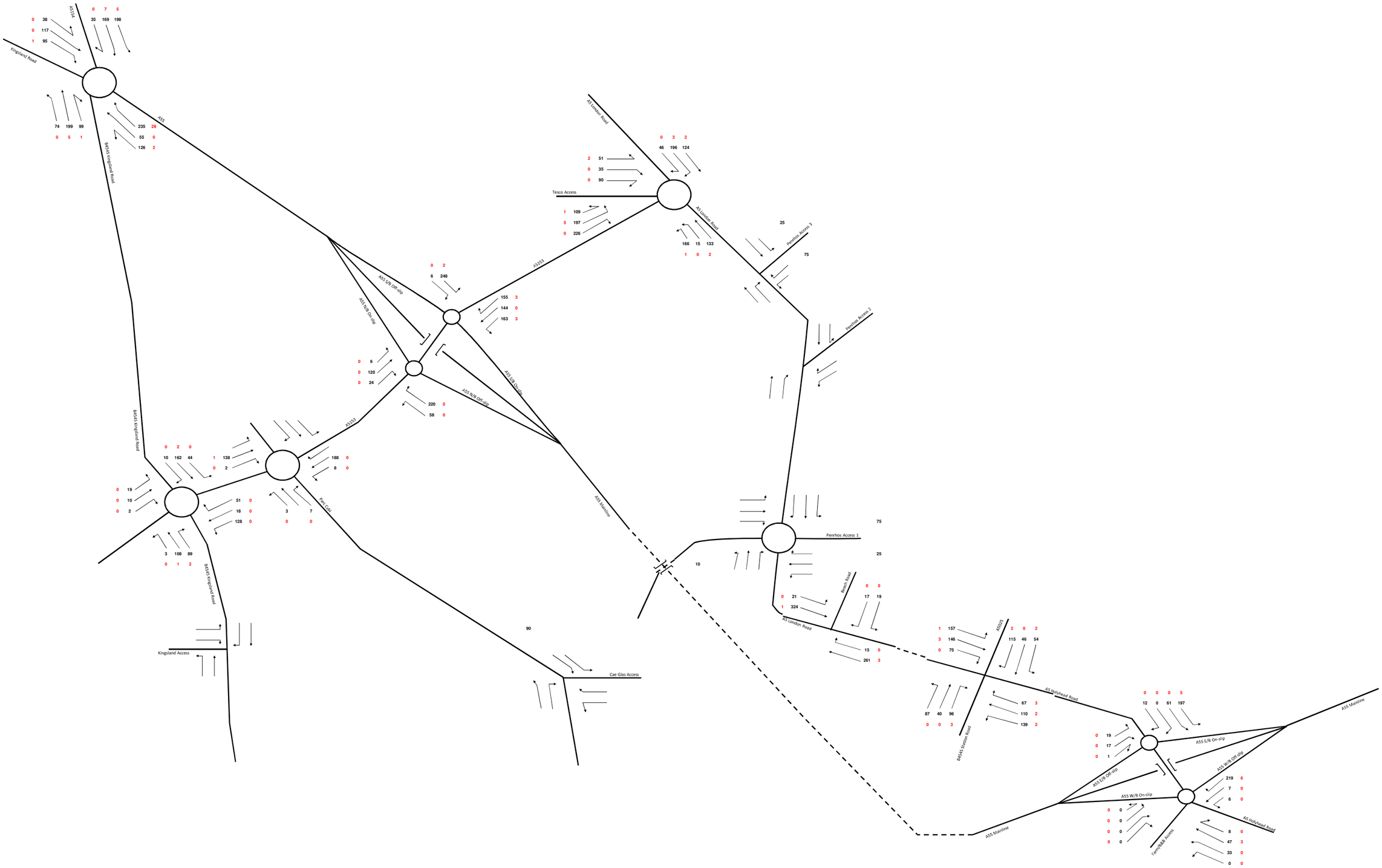
Project: Penrhos Leisure Village
Scenario: Figure 1: 2011 Observed Flows
Peak: Friday AM Peak (0830-0930)
Notes: Cars & LGVs in black
HGVs in red



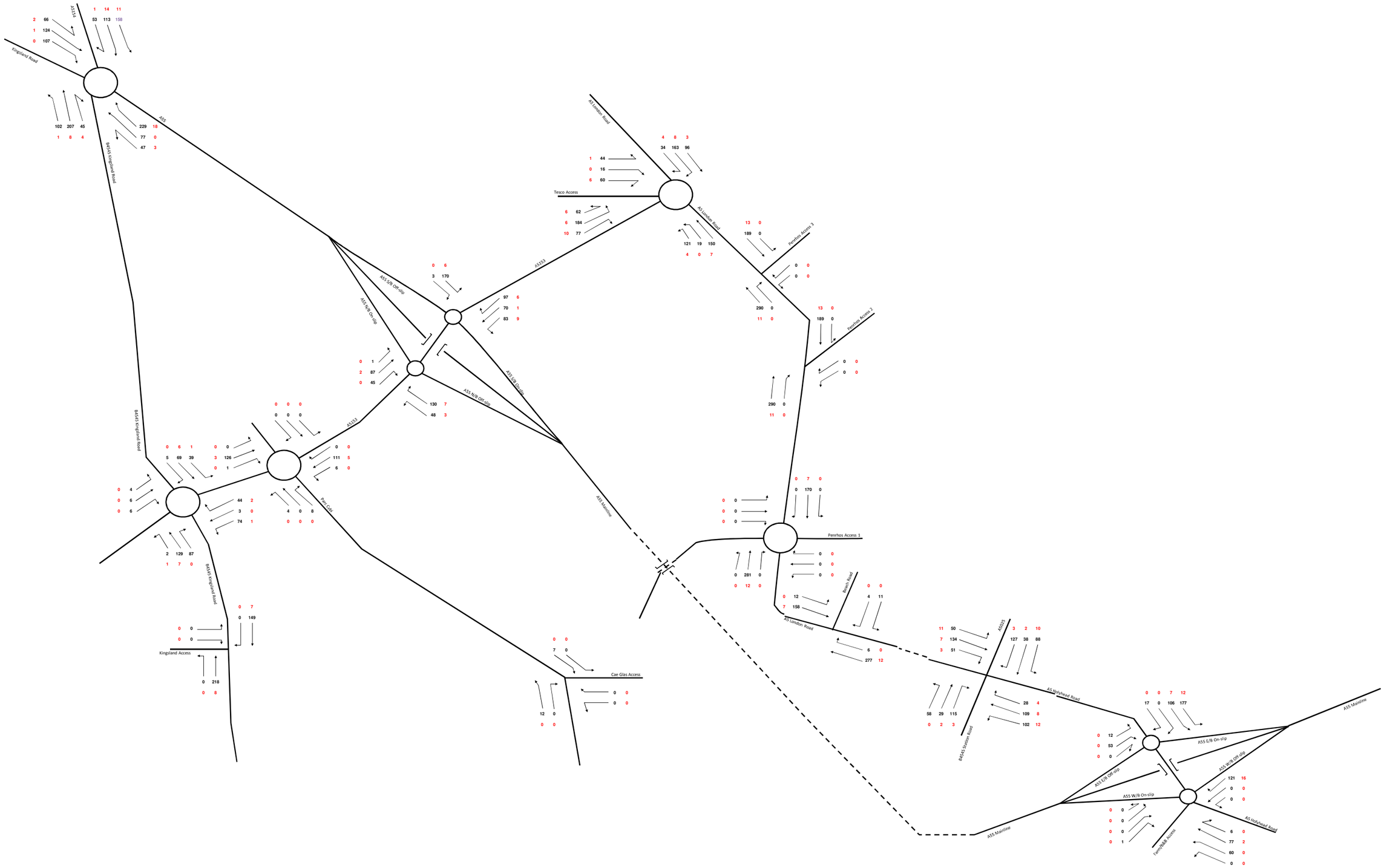
Project: Penrhos Leisure Village
Scenario: Figure 2: 2011 Observed Flows
Peak: Friday PM Peak (1545-1645)
Notes: Cars & LGVs in black
HGVs in red



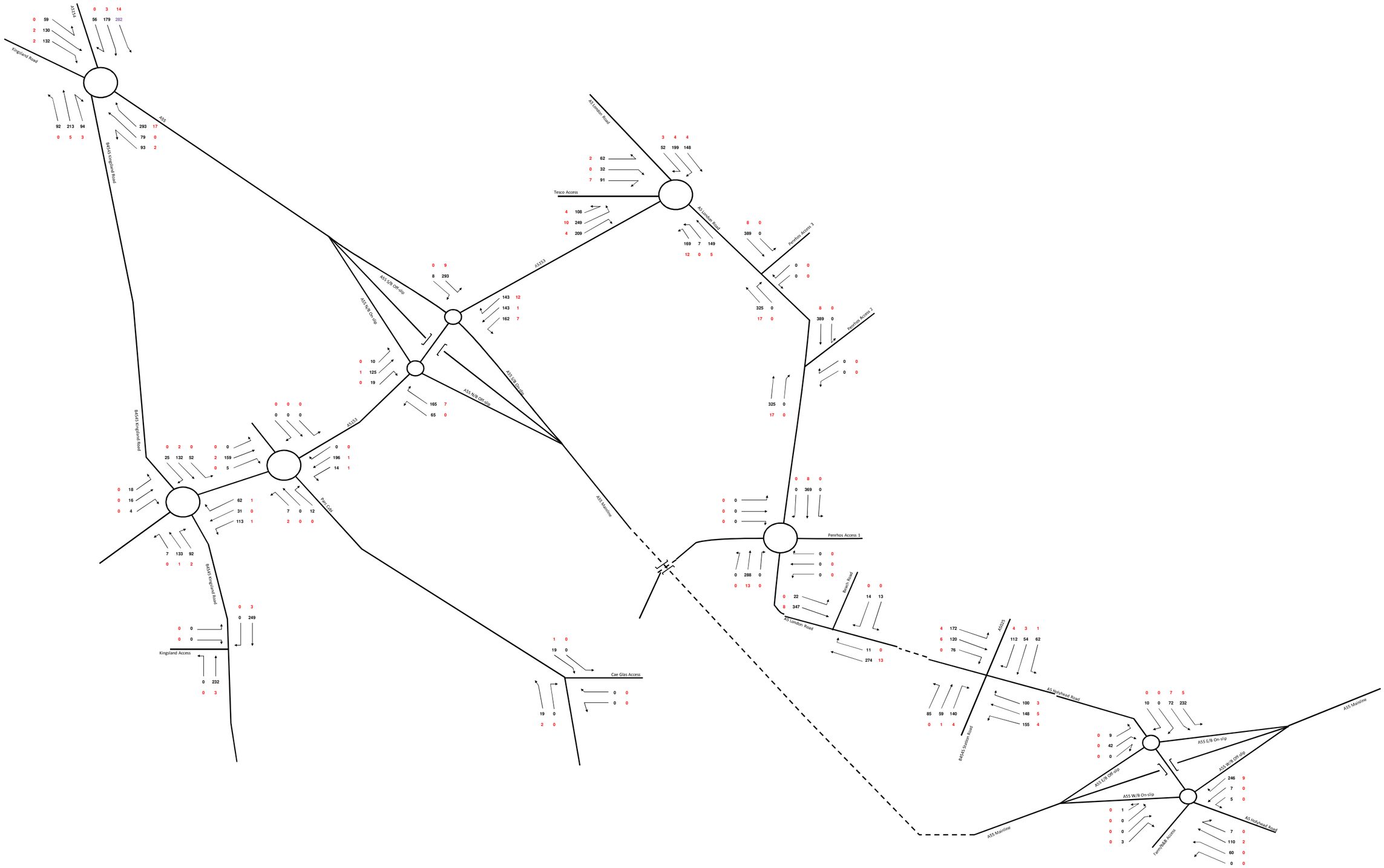
Project: Penrhos Leisure Village
Scenario: Figure 3: 2011 Observed Flows
Peak: Saturday Peak (1215-1315)
Notes: Cars & LGVs in black
HGVs in red



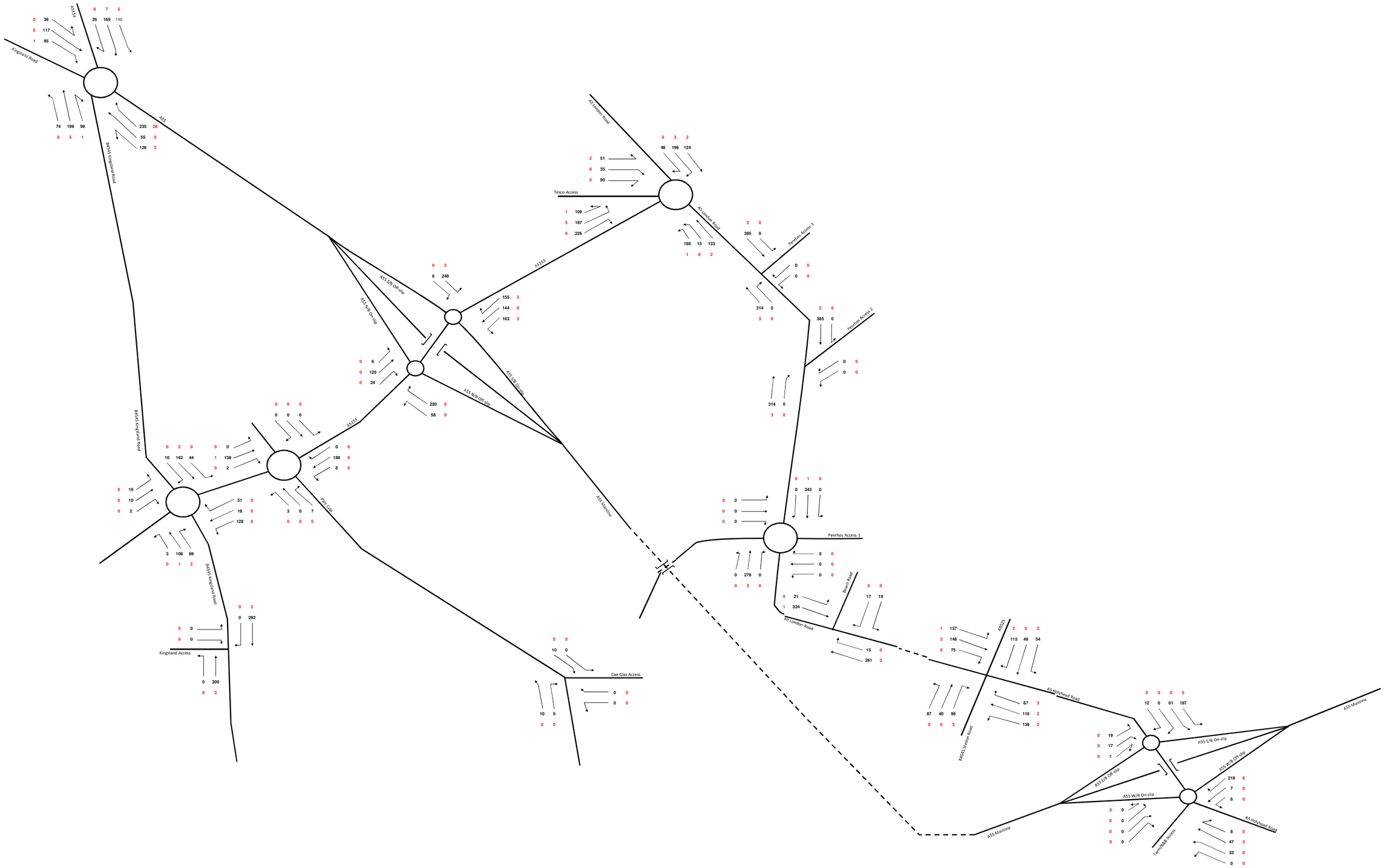
Project: Penrhos Leisure Village
Scenario: Figure 4: 2012 Base Flows
Peak: Friday AM Peak (0830-0930)
Notes: Cars & LGVs in black
HGVs in red



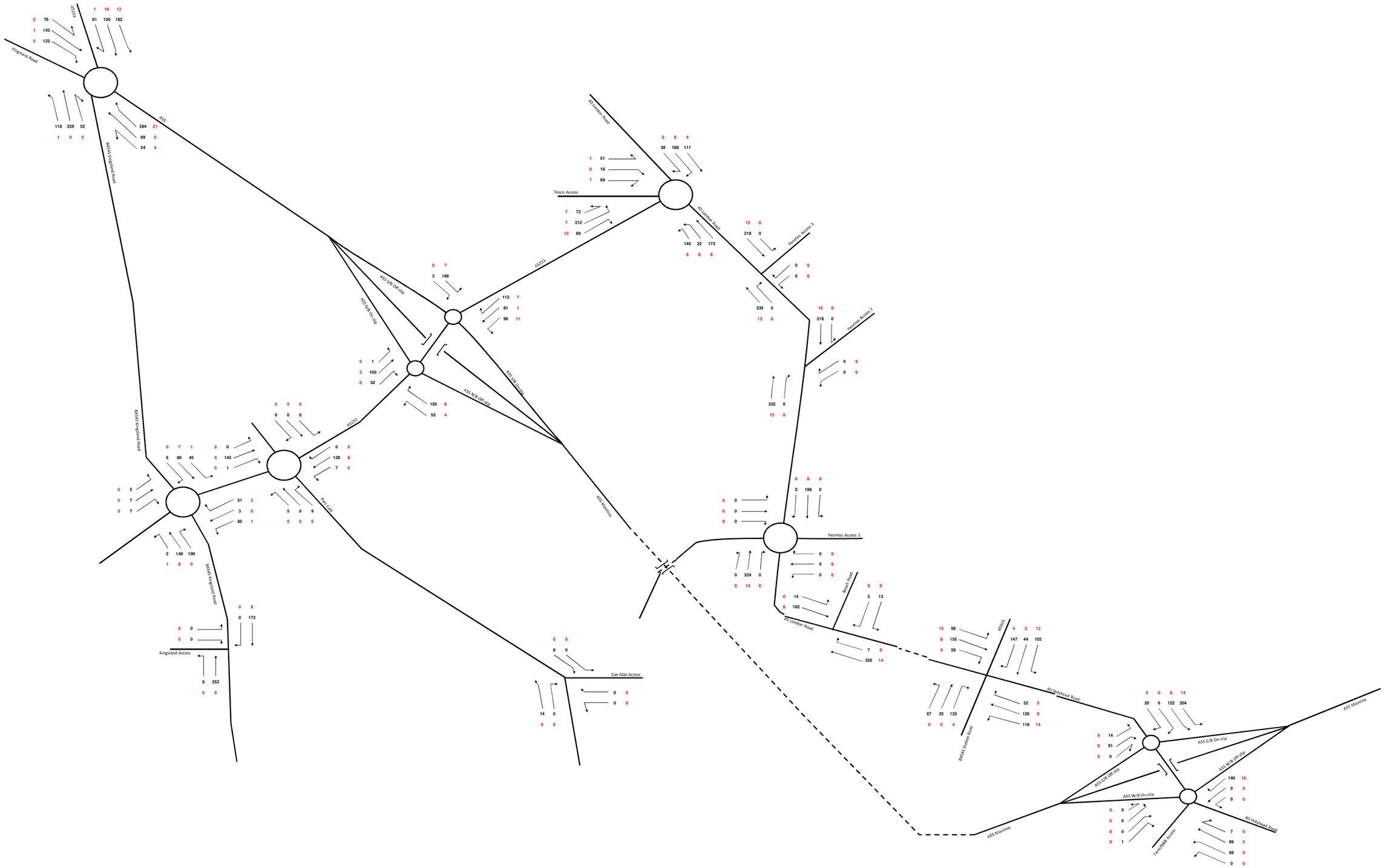
Project: Penrhos Leisure Village
Scenario: Figure 5: 2012 Base Flows
Peak: Friday PM Peak (1545-1645)
Notes: Cars & LGVs in black
HGVs in red



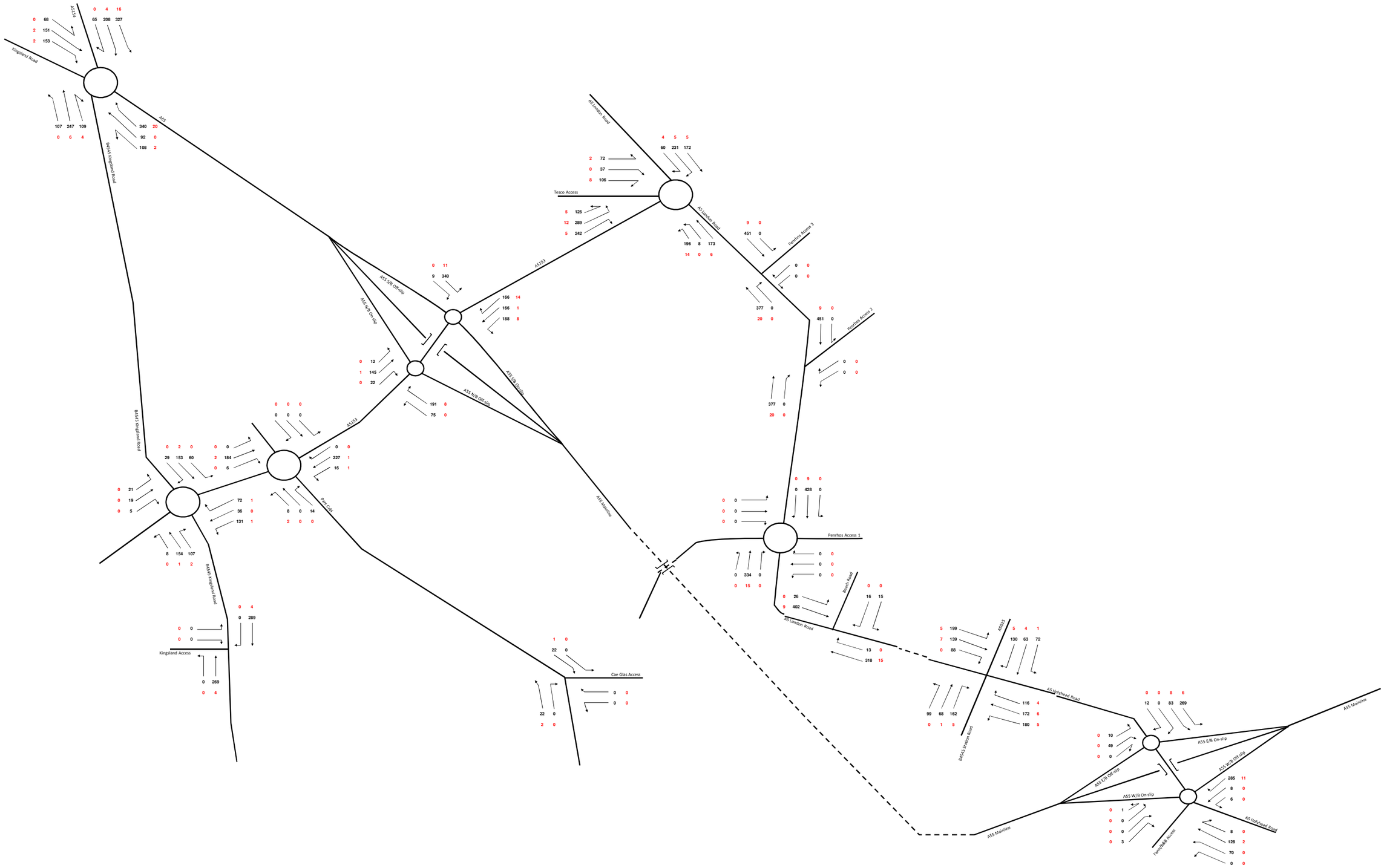
Project: Penrhos Leisure Village
Scenario: Figure 6: 2012 Base Flows
Peak: Saturday Peak (1215-1315)
Notes: Cars & LGVs in black
HGVs in red



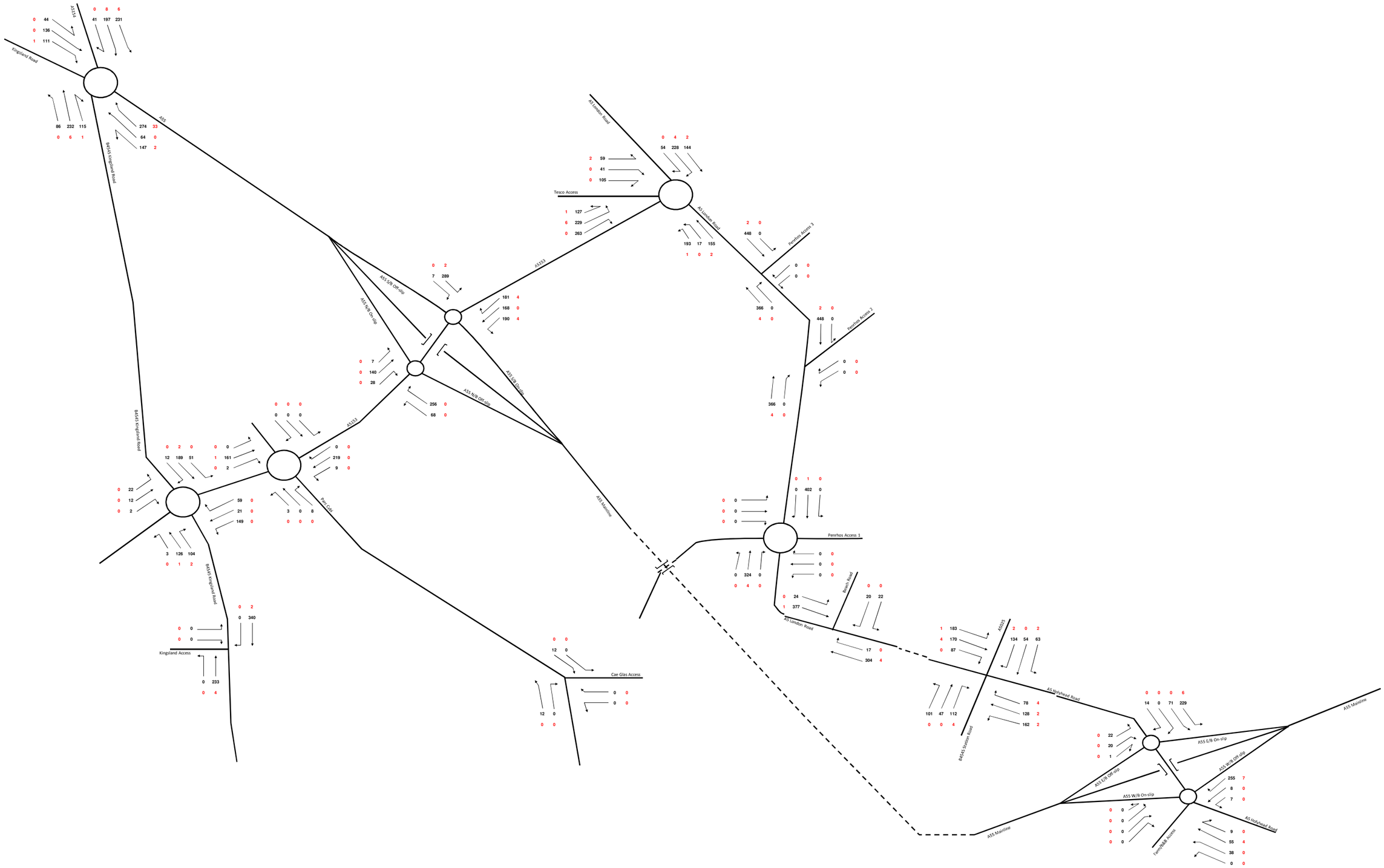
Project: Penrhos Leisure Village
Scenario: Figure 7: 2022 Base Flows
Peak: Friday AM Peak (0830-0930)
Notes: Cars & LGVs in black
HGVs in red



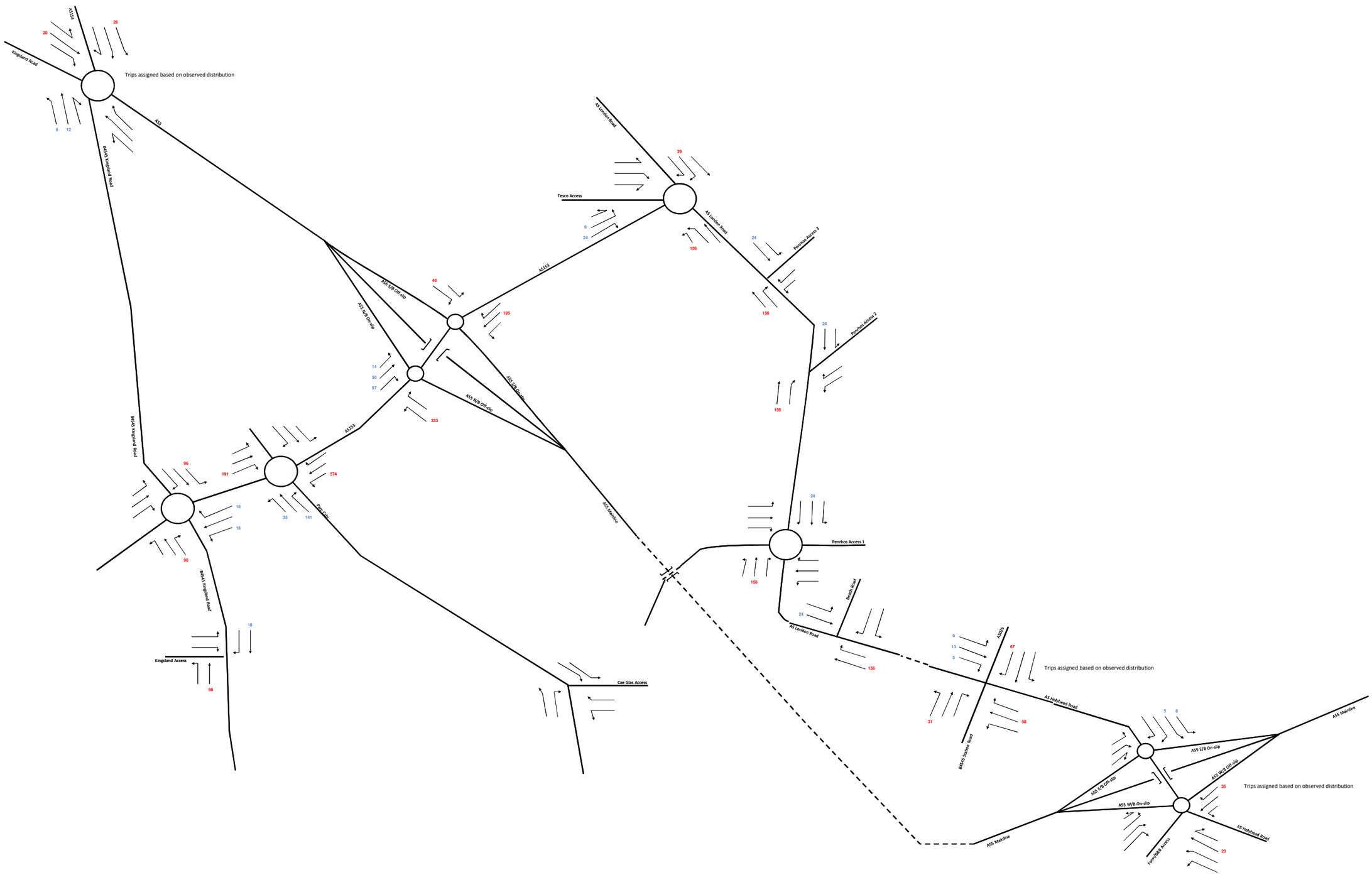
Project: Penrhos Leisure Village
Scenario: Figure 8: 2022 Base Flows
Peak: Friday PM Peak (1545-1645)
Notes: Cars & LGVs in black
HGVs in red



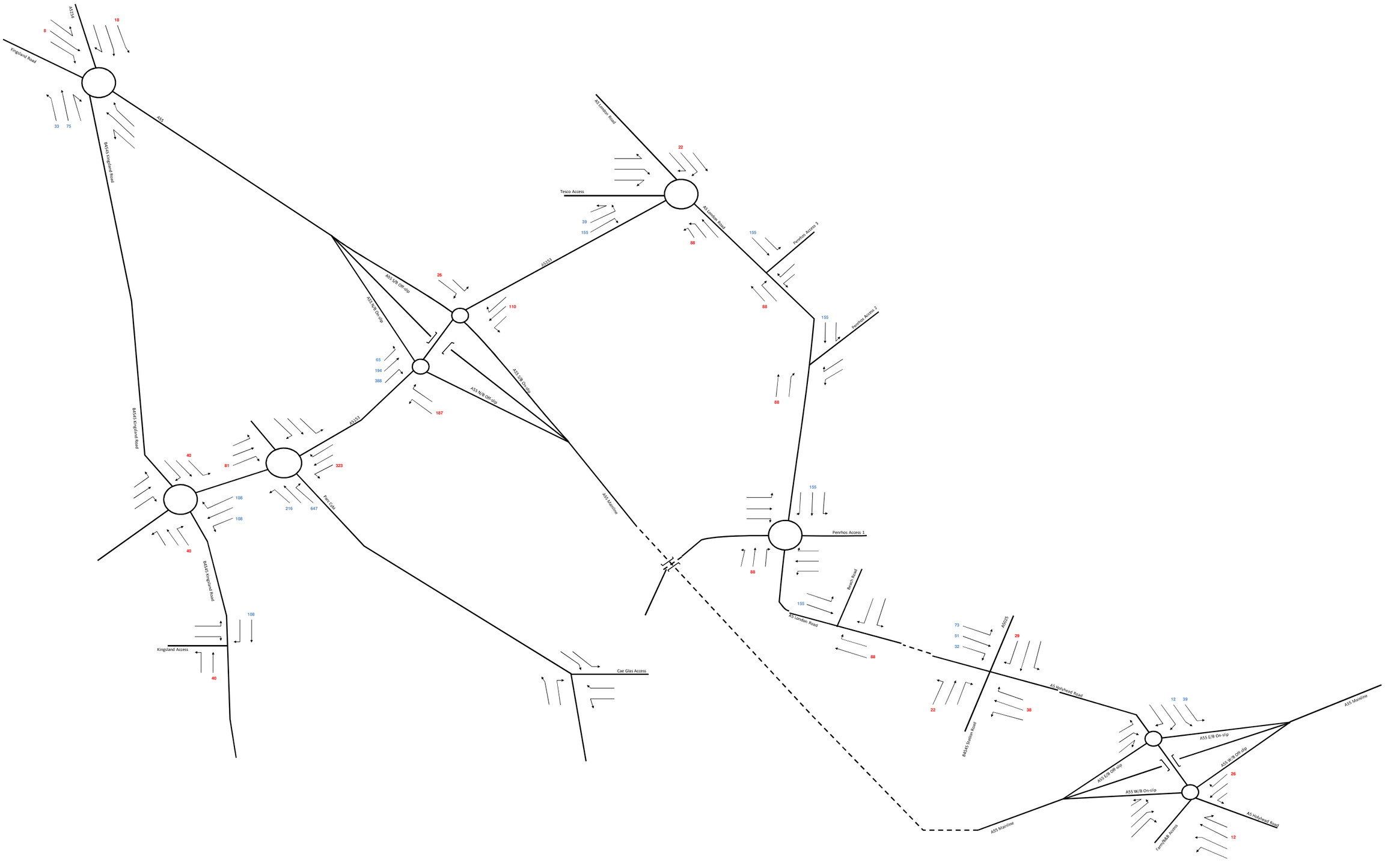
Project: Penrhos Leisure Village
Scenario: Figure 9: 2022 Base Flows
Peak: Saturday Peak (1215-1315)
Notes: Cars & LGVs in black
HGVs in red



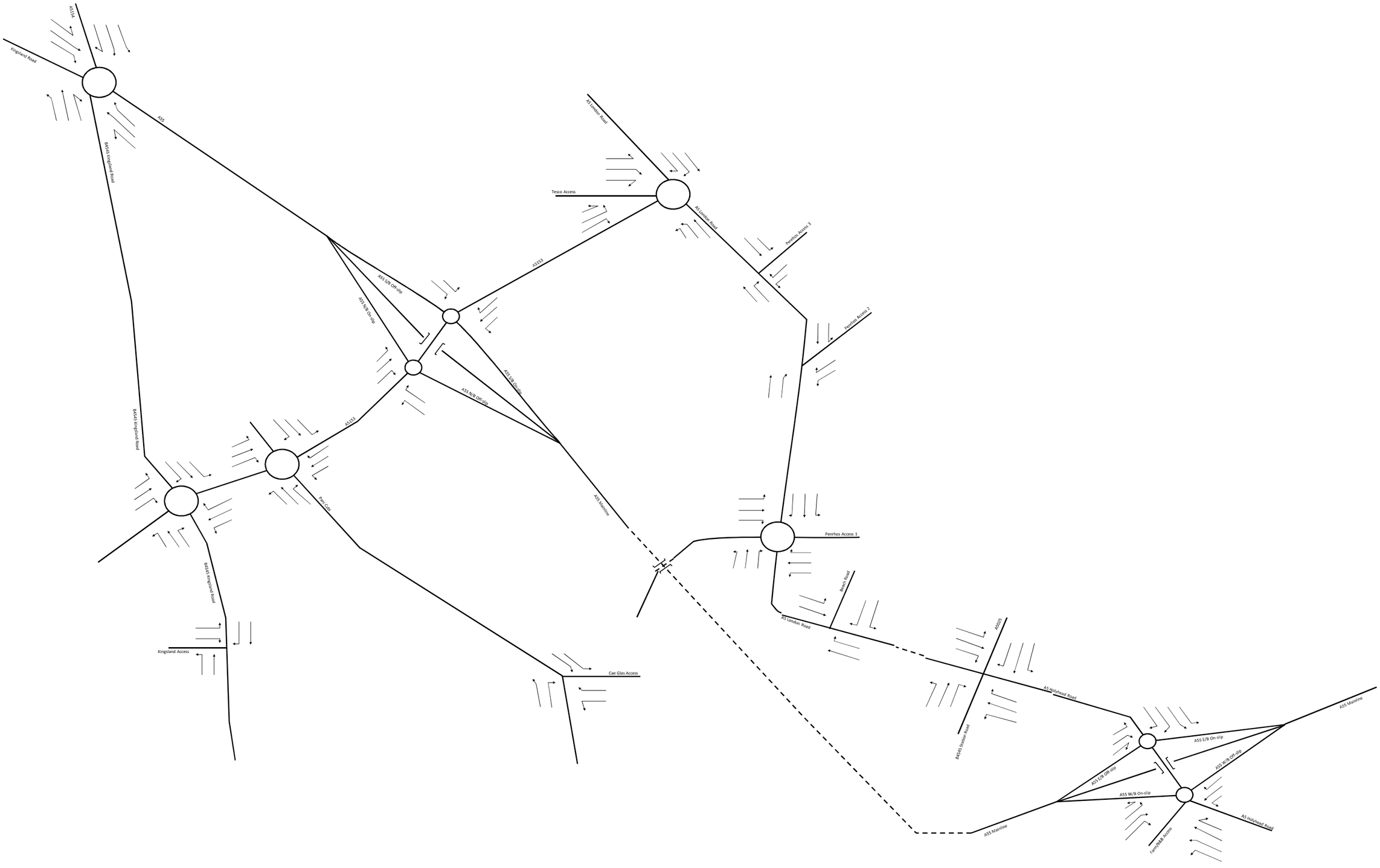
Project: Penrhos Leisure Village
Scenario: Figure 10: Committed Development Flows (Parc Cybi)
Peak: Friday AM Peak (0830-0930)
Notes: Flows taken from Ty Mawr Development TA
All flows assumed to be in vehicles Arrivals 765 Departures 176



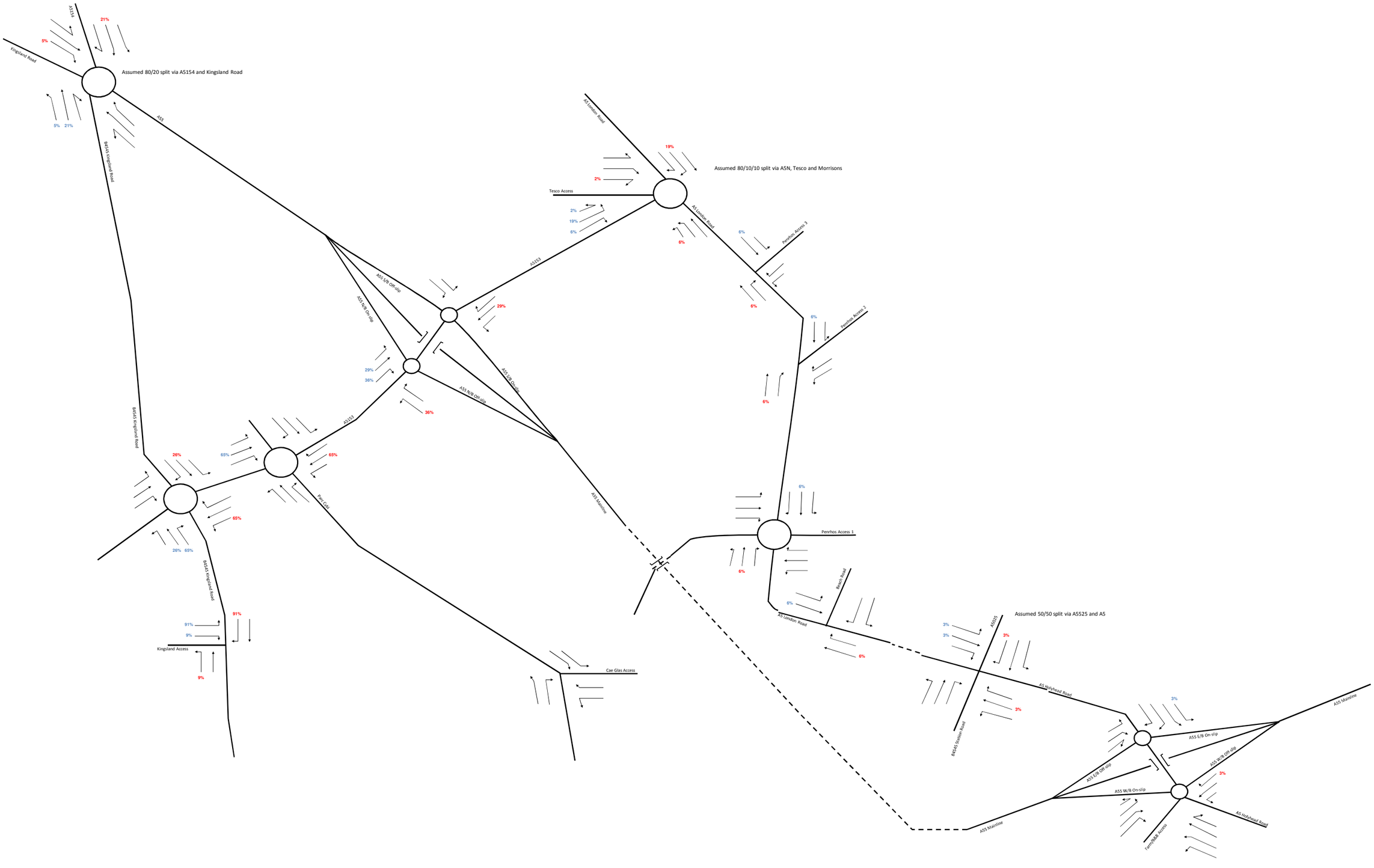
Project: Penrhos Leisure Village
Scenario: Figure 11: Committed Development Flows (Parc Cybi)
Peak: Friday PM Peak (1545-1645)
Notes: Flows taken from Ty Mawr Development TA
All flows assumed to be in vehicles Arrivals 404 Departures 862



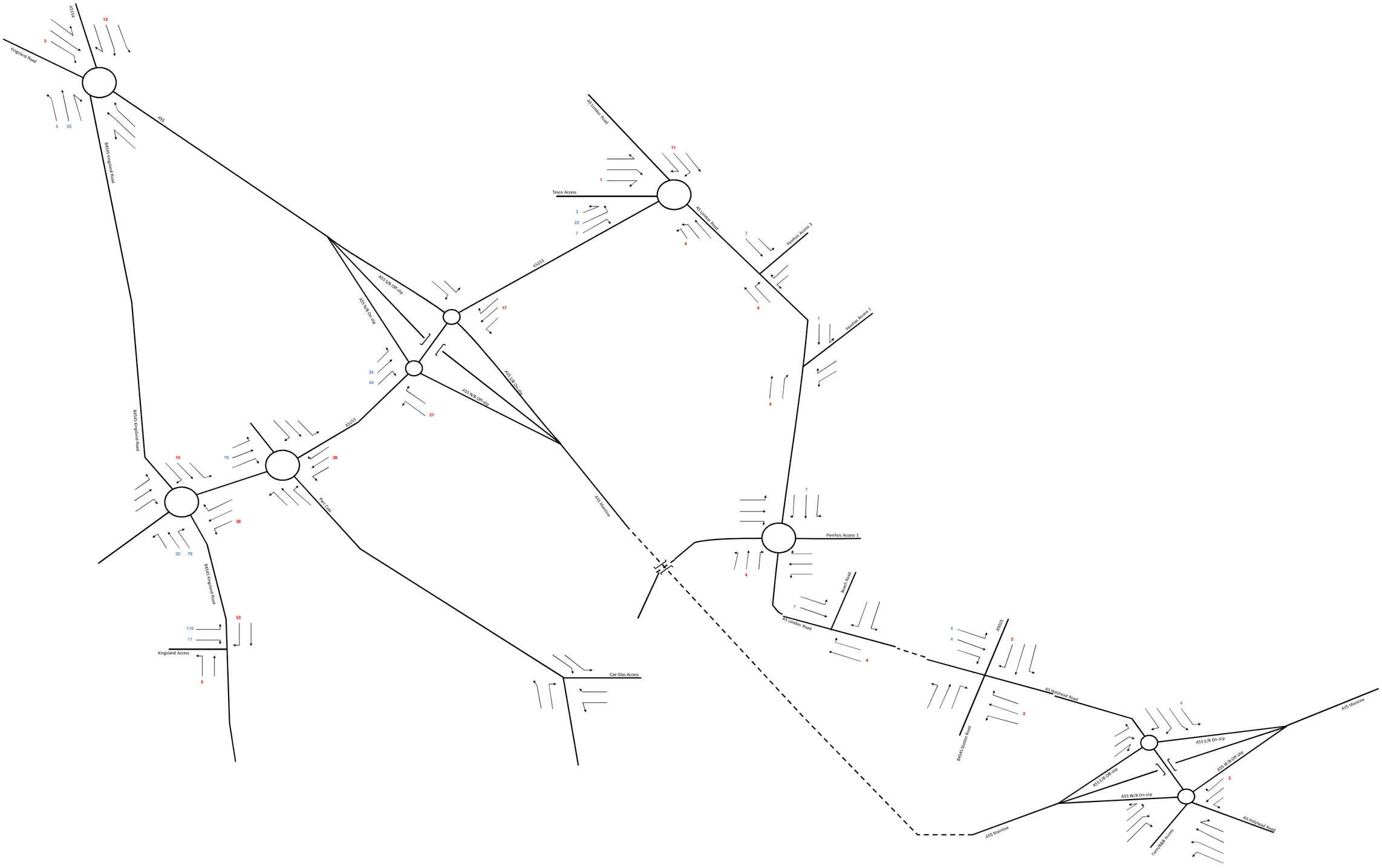
Project: Penrhos Leisure Village
Scenario: Figure 12: Committed Development Flows (Parc Cybi)
Peak: Saturday Peak (1215-1315)
Notes: Flows taken from Ty Mawr Development TA
All flows assumed to be in vehicles



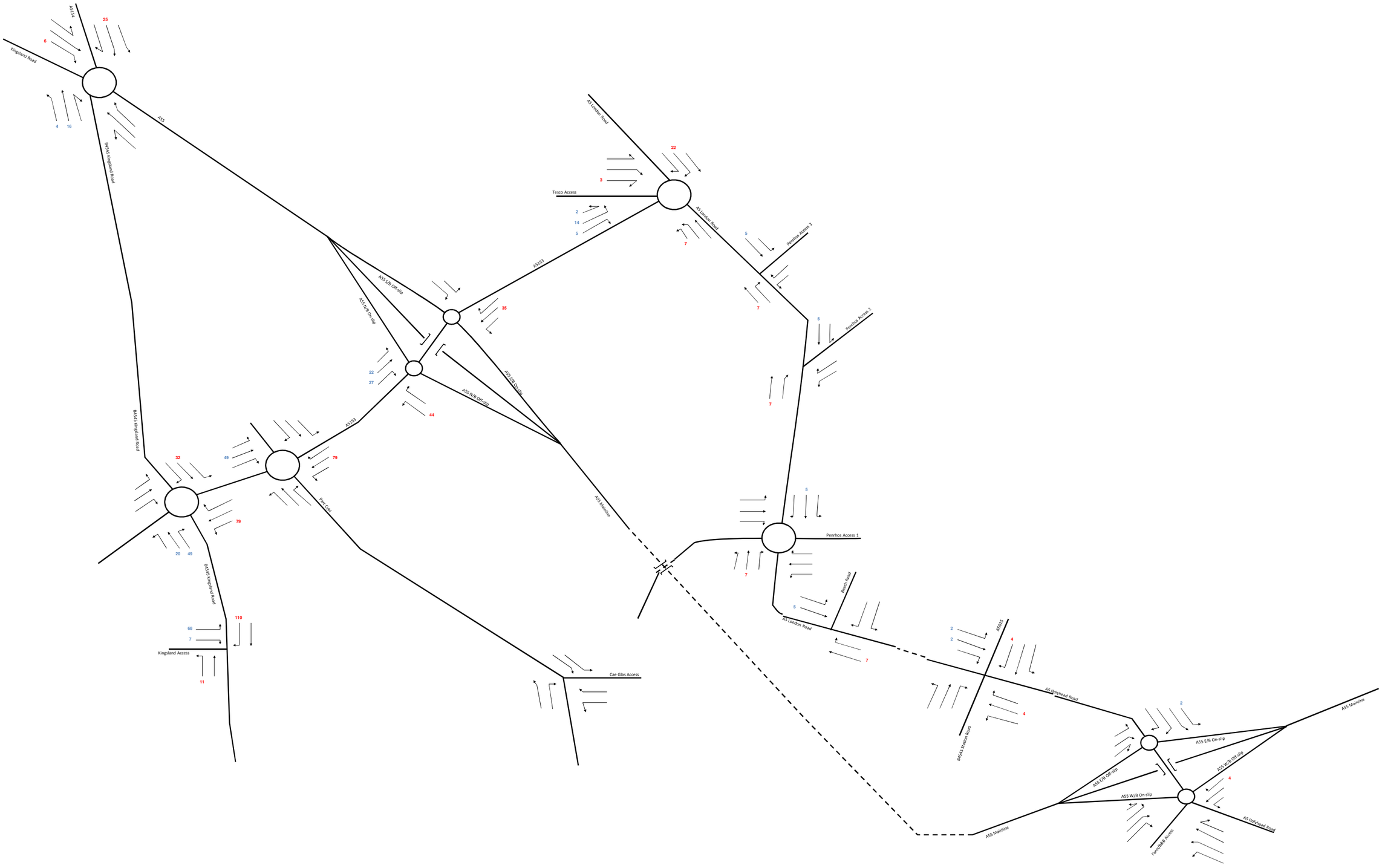
Project: Penrhos Leisure Village
Scenario: Figure 16: Kingsland Distribution
Peak: All
Notes: Based on Census JTW Analysis
Arrivals in Red
Departures in Blue



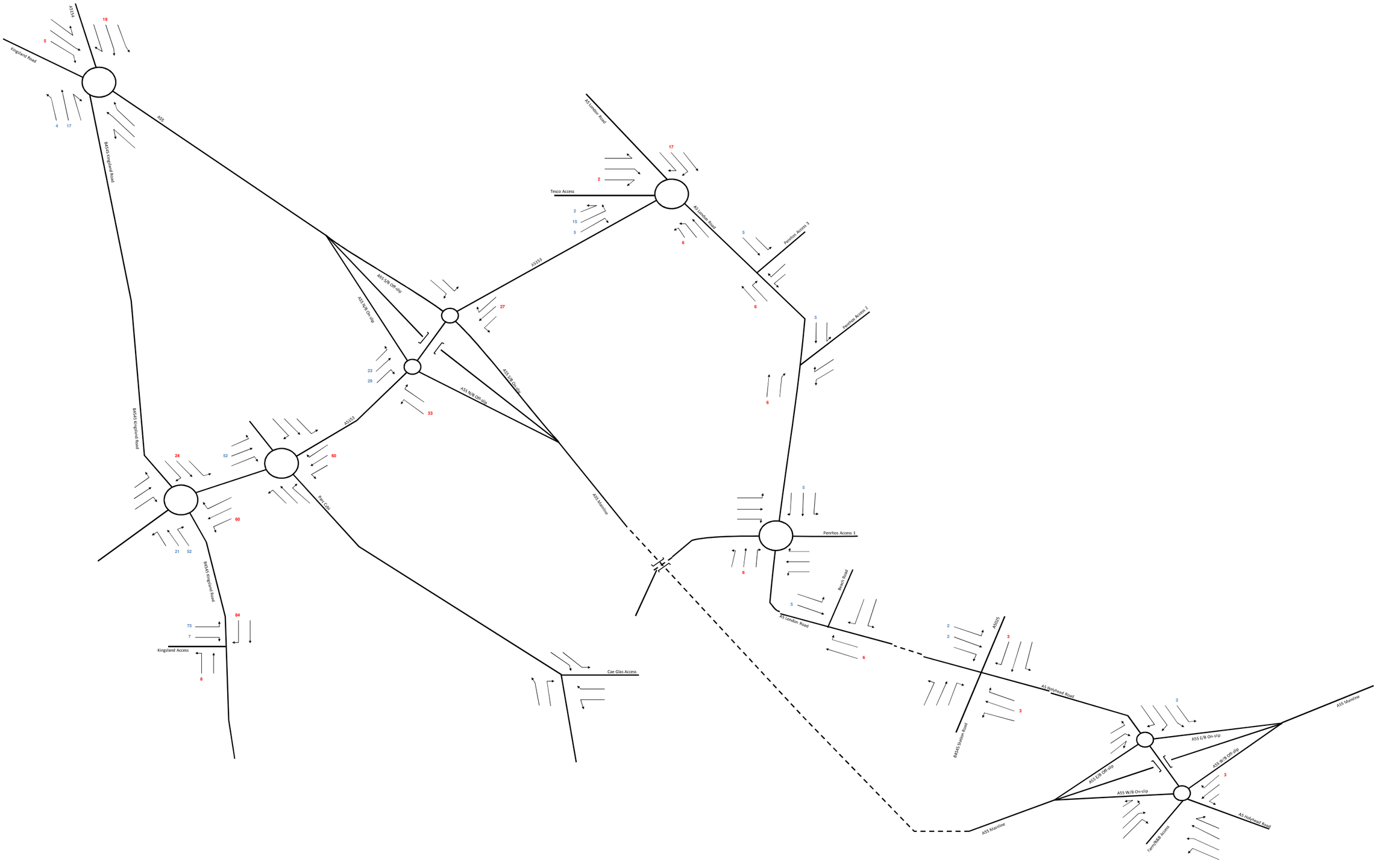
Project: Penrhos Leisure Village
Scenario: Figure 17: 2022 Kingsland Development Trips
Peak: Friday AM Peak (0830-0930)
Notes: 375 Units
Arrivals = 58
Departures = 121



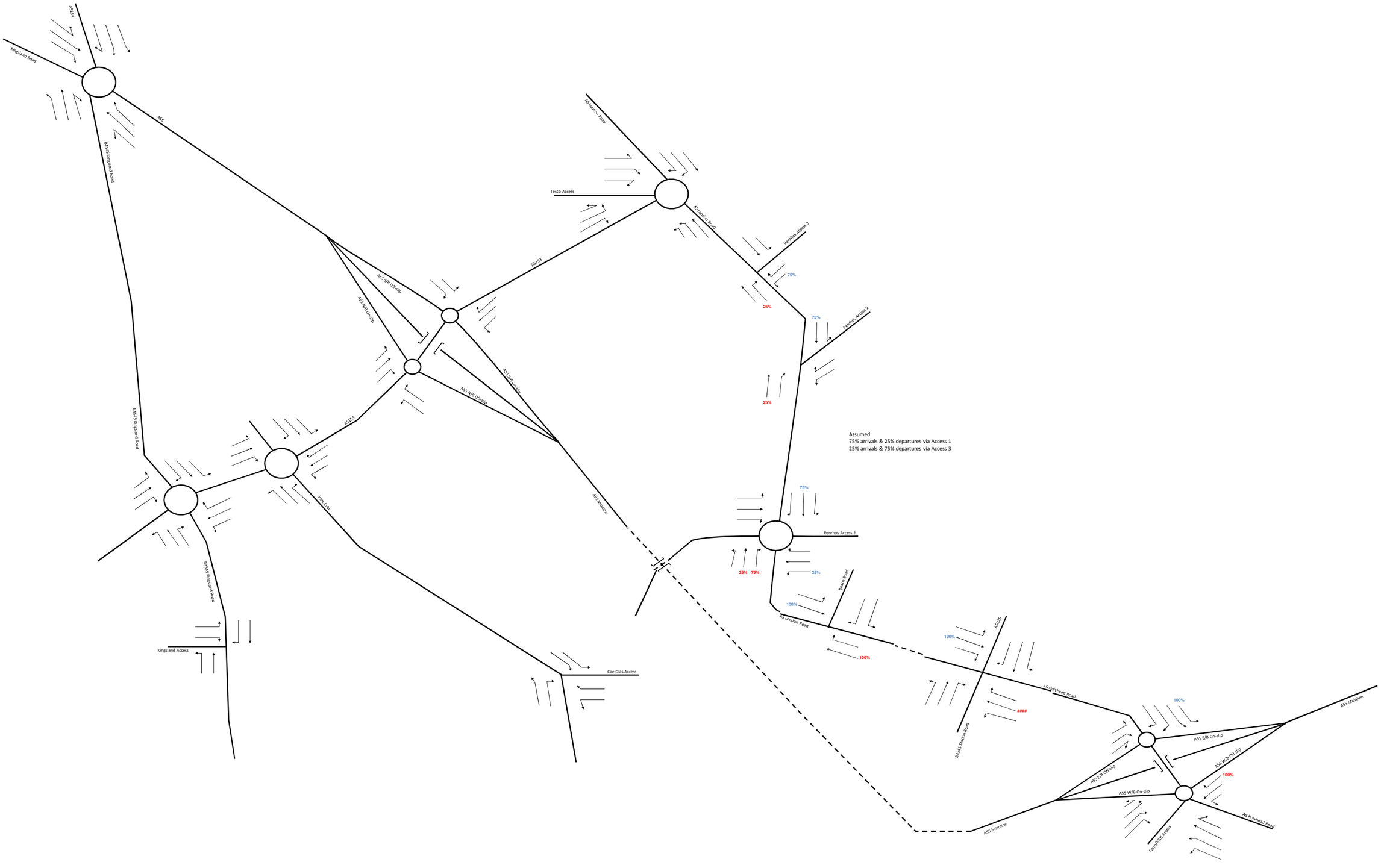
Project: Penrhos Leisure Village
Scenario: Figure 18: 2022 Kingsland Development Trips
Peak: Friday PM Peak (1545-1645)
Notes: 375 Units
Arrivals = 121
Departures = 75



Project: Penrhos Leisure Village
Scenario: Figure 19: 2022 Kingsland Development Trips
Peak: Saturday Peak (1215-1315)
Notes: 375 Units
Arrivals = 92
Departures = 80

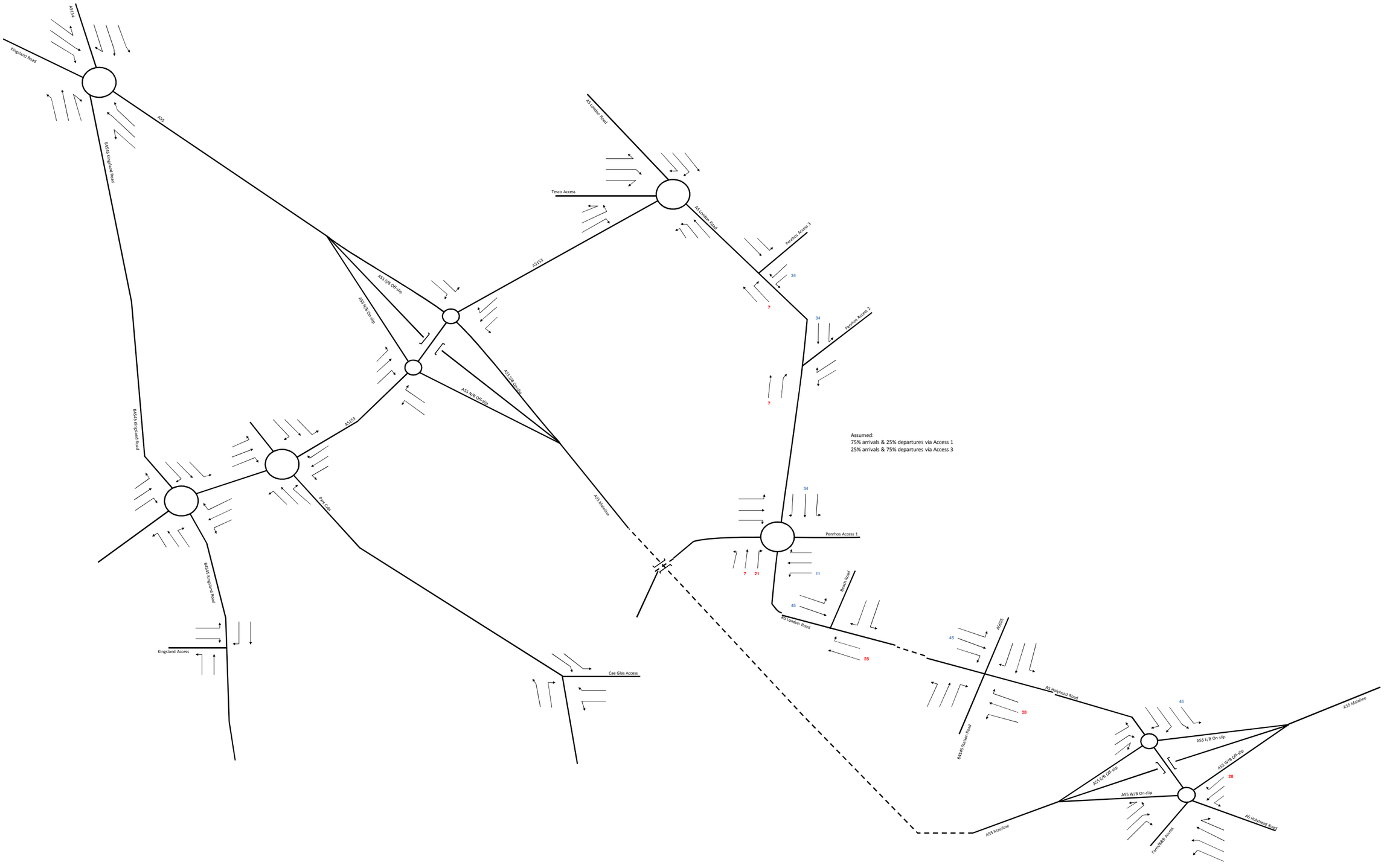


Project: Penrhos Leisure Village
Scenario: Figure 20: Penrhos Check-in/Check-out Distribution
Peak: All
Notes: Based on Signage Strategy
Arrivals in Red 28
Departures in Blue



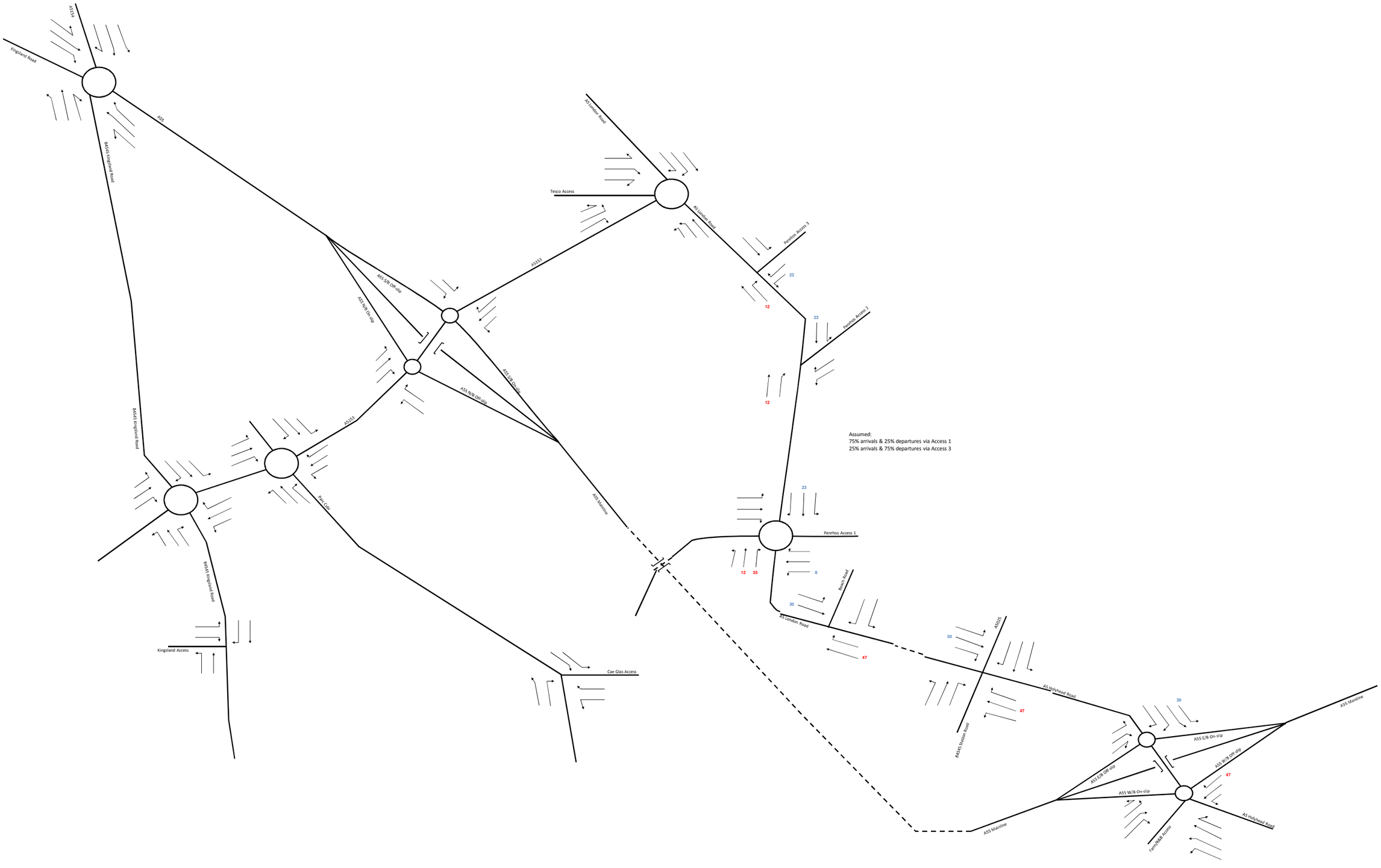
Project: Penrhos Leisure Village
Scenario: Figure 21: Penrhos Check-in/Check-out Development Trips
Peak: Friday AM Peak (0830-0930)
Notes:

Arrivals = 28
Departures = 45



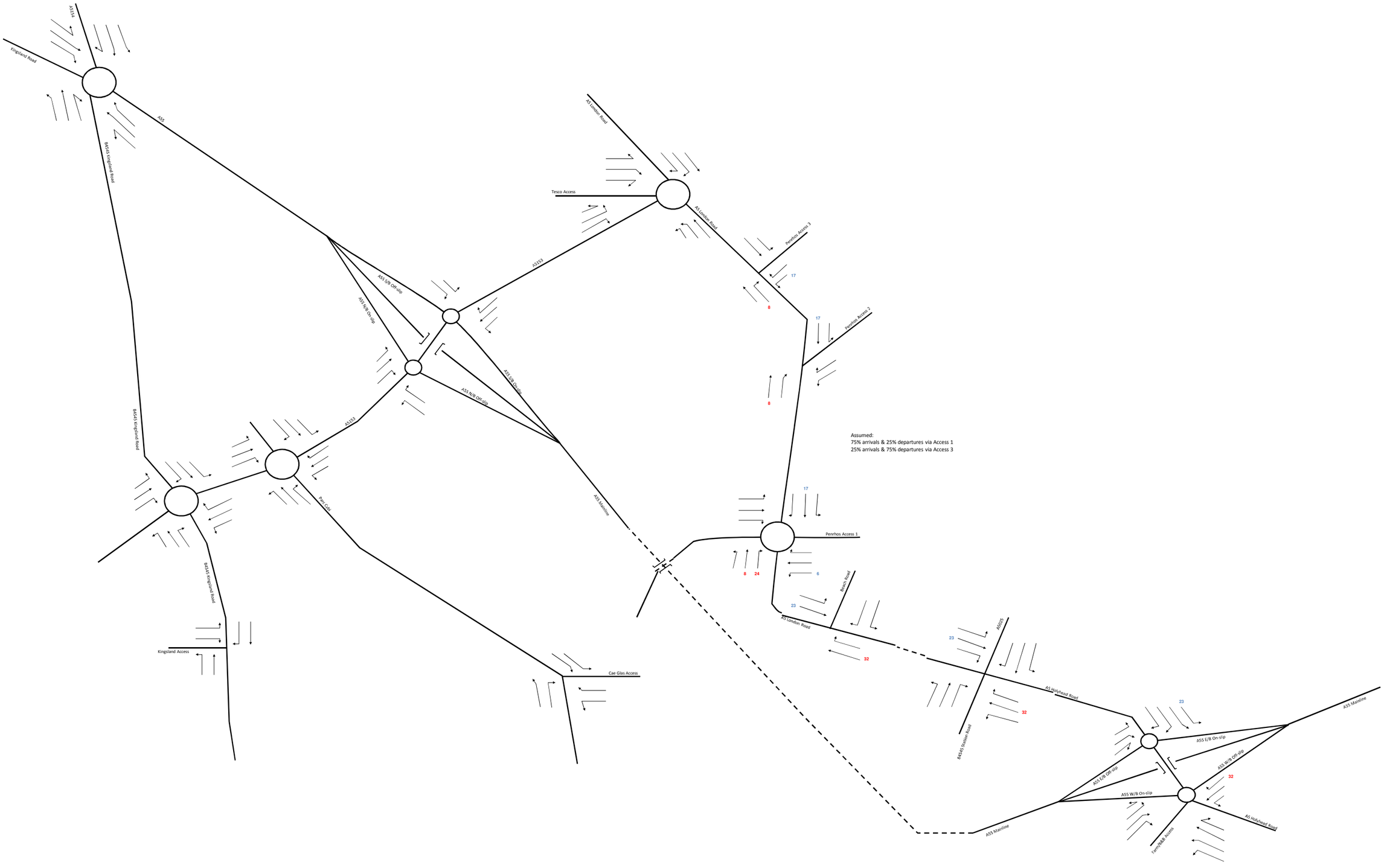
Project: Penrhos Leisure Village
Scenario: Figure 22: Penrhos Check-in/Check-out Development Trips
Peak: Friday PM Peak (1545-1645)
Notes:

Arrivals = 47
Departures = 30

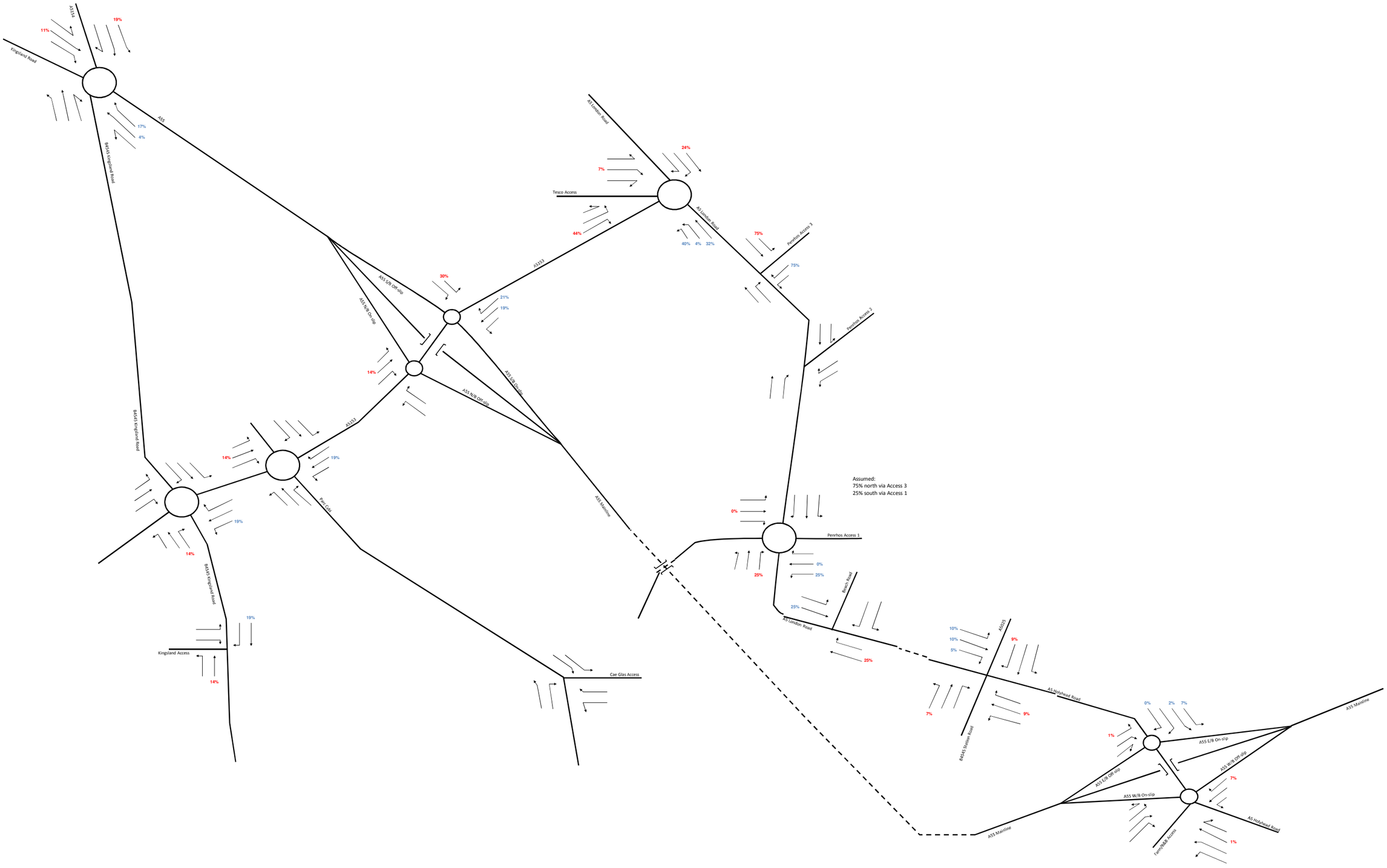


Project: Penrhos Leisure Village
Scenario: Figure 23: Penrhos Check-in/Check-out Development Trips
Peak: Saturday Peak (1215-1315)
Notes:

Arrivals = 32
Departures = 23

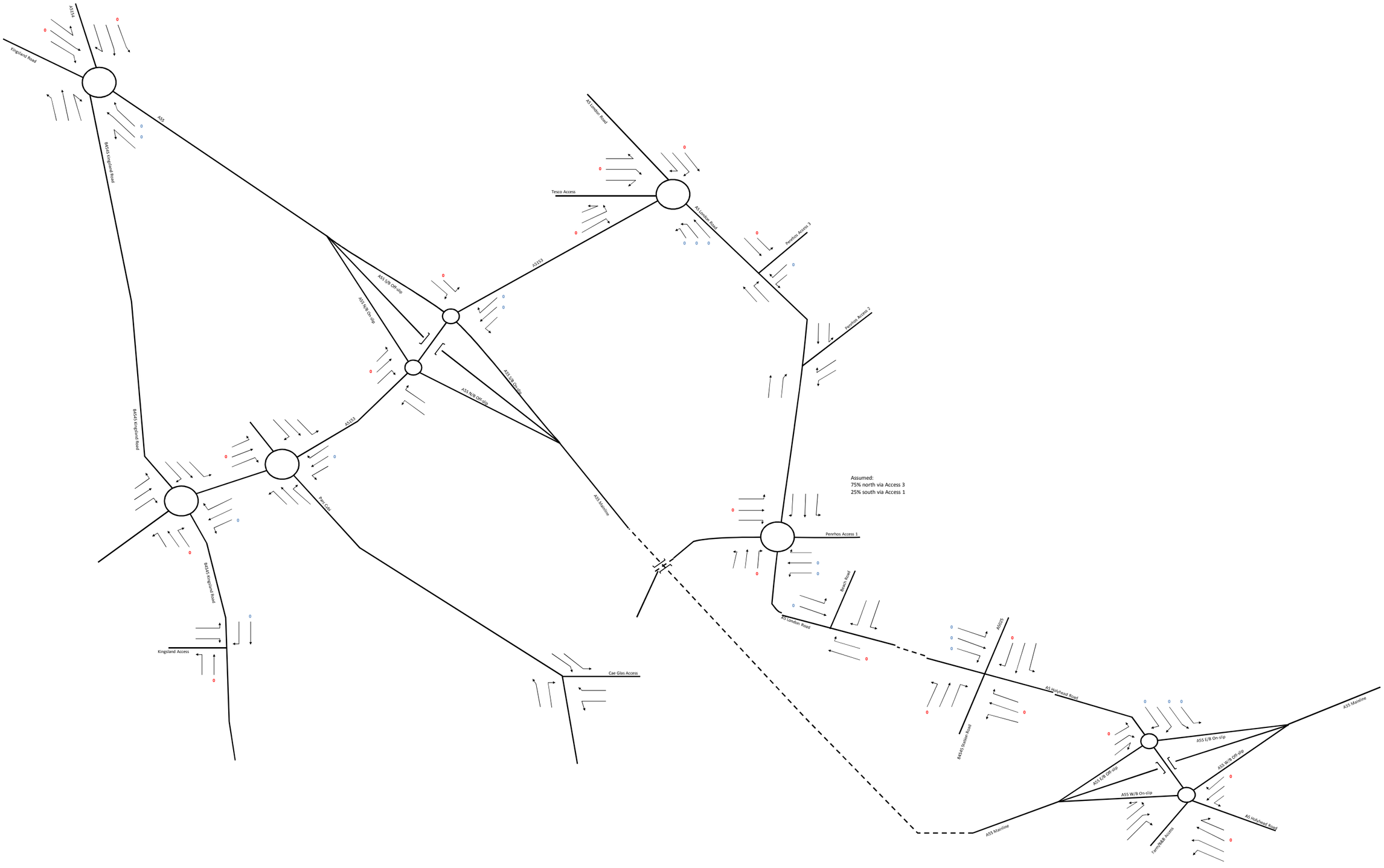


Project: Penrhos Leisure Village
Scenario: Figure 24: Penrhos Leisure Distribution
Peak: All
Notes: Based on Observed Turning Movements
Arrivals in Red 28
Departures in Blue



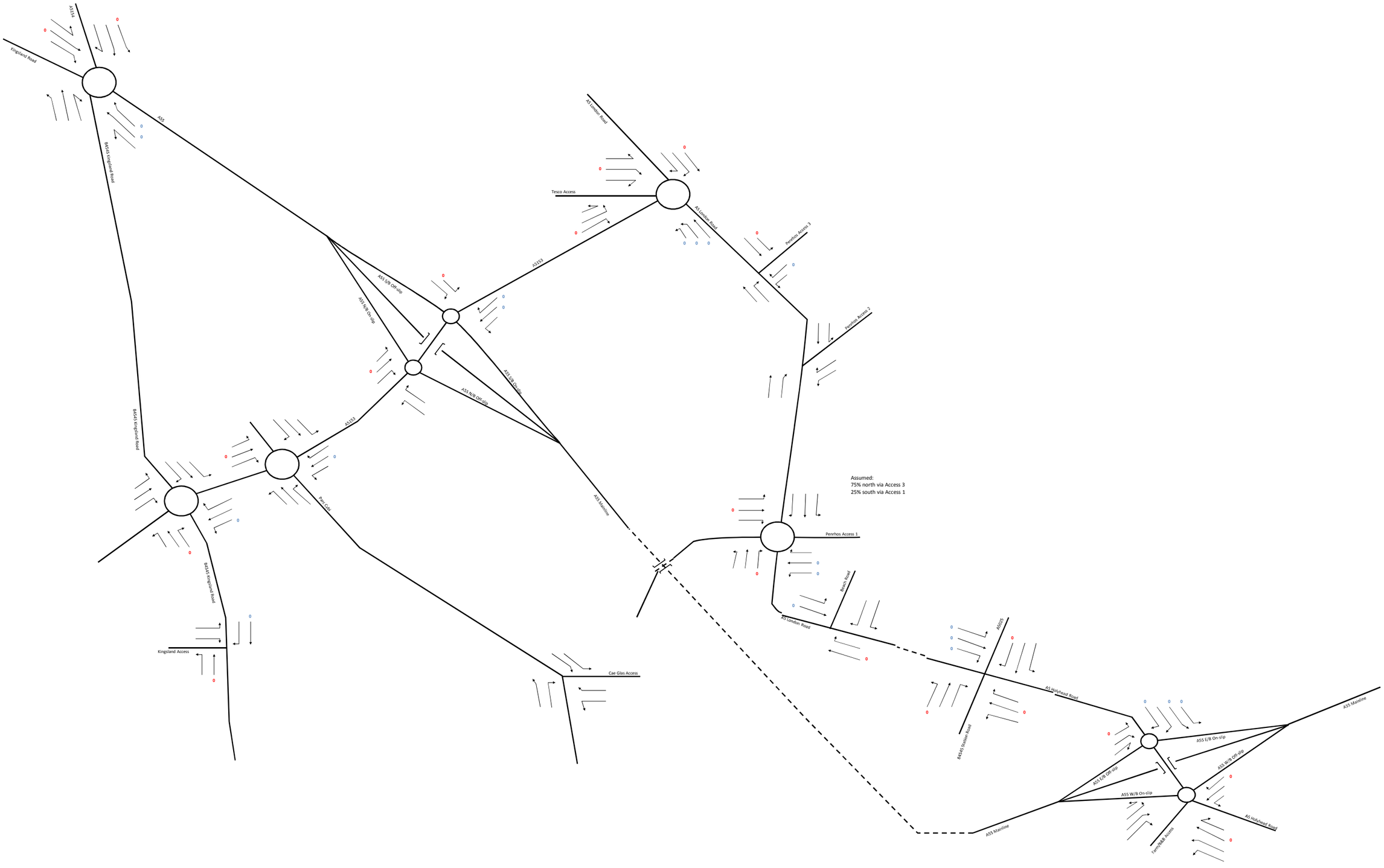
Project: Penrhos Leisure Village
Scenario: Figure 25: Penrhos Leisure Development Trips
Peak: Friday AM Peak (0830-0930)
Notes:

Arrivals = 0
Departures = 0



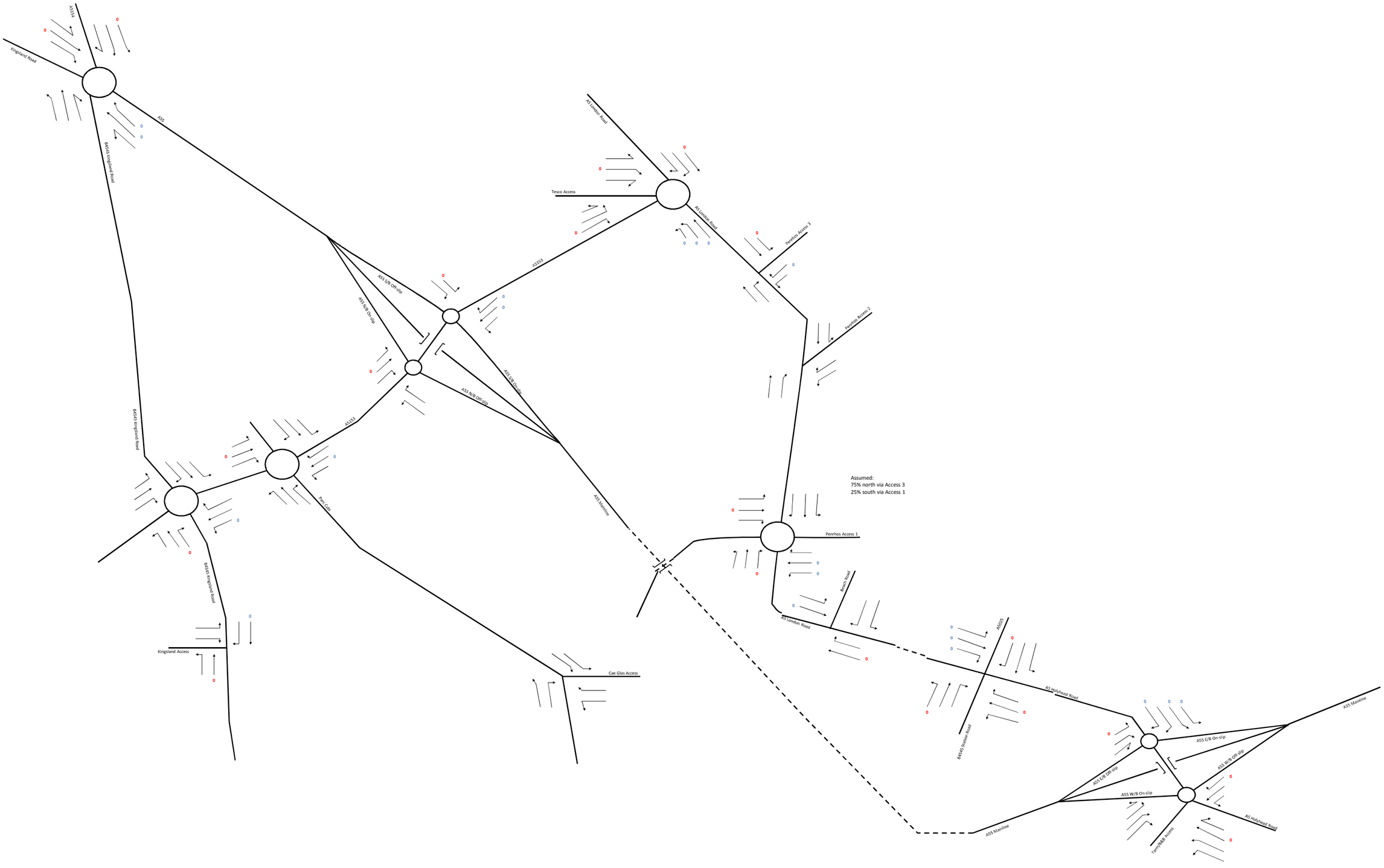
Project: Penrhos Leisure Village
Scenario: Figure 26: Penrhos Leisure Development Trips
Peak: Friday PM Peak (1545-1645)
Notes:

Arrivals = 0
Departures = 0

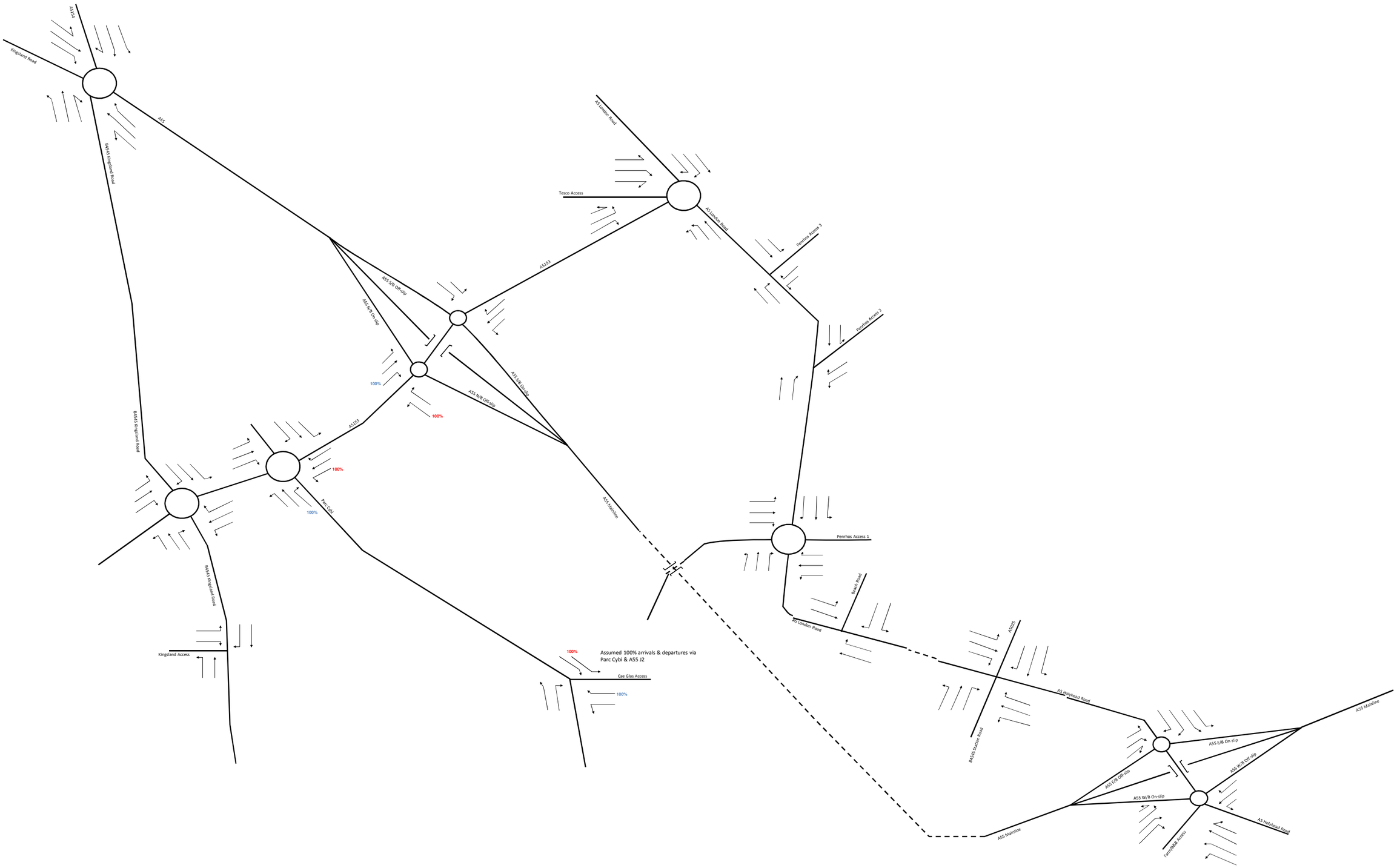


Project: Penrhos Leisure Village
Scenario: Figure 27: Penrhos Leisure Development Trips
Peak: Saturday Peak (1215-1315)
Notes:

Arrivals = 0
Departures = 0

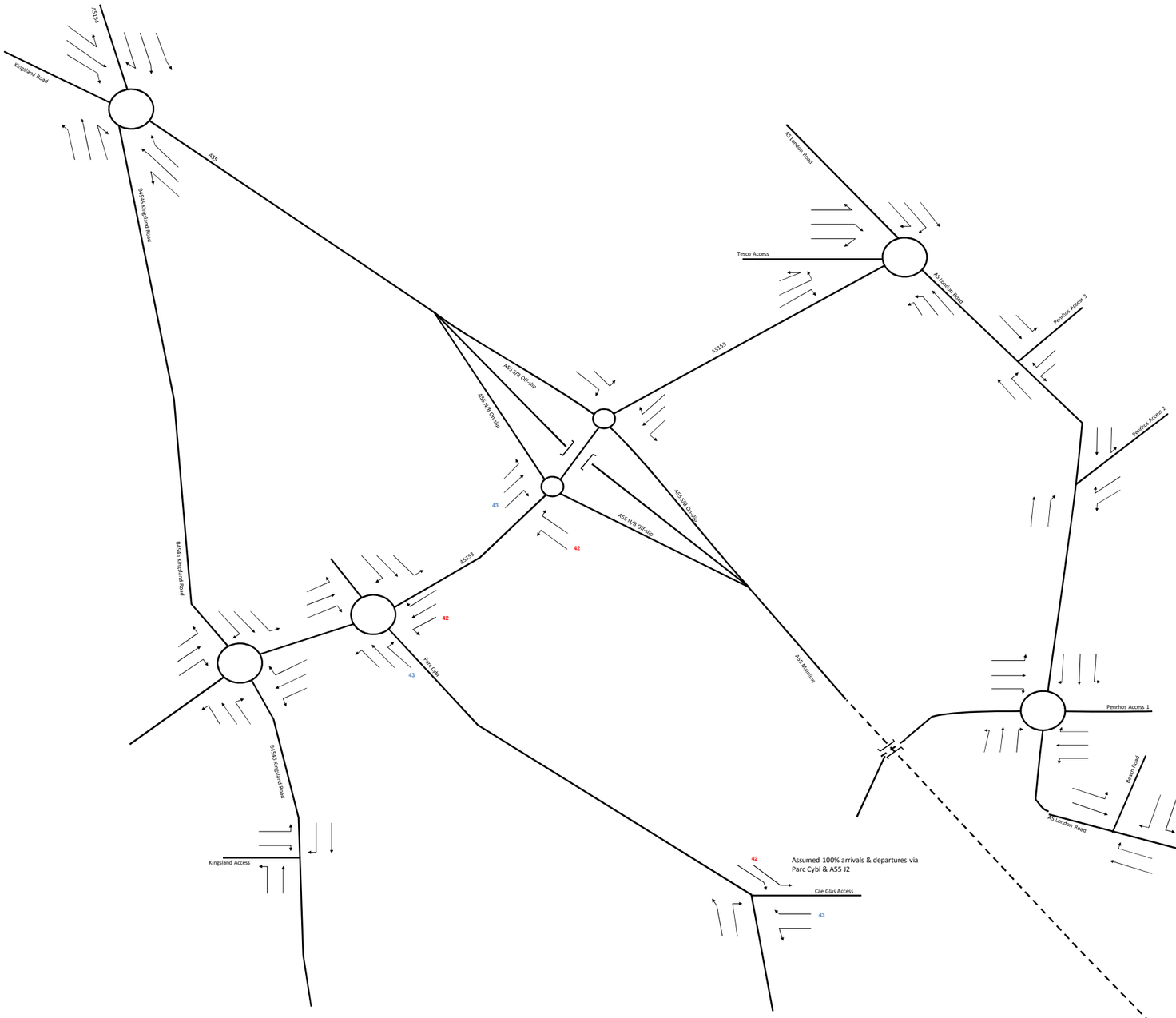


Project: Penrhos Leisure Village
Scenario: Figure 28: Cae Glas Check-in/Check-out Distribution
Peak: All
Notes: Based on Signage Strategy
Arrivals in Red
Departures in Blue



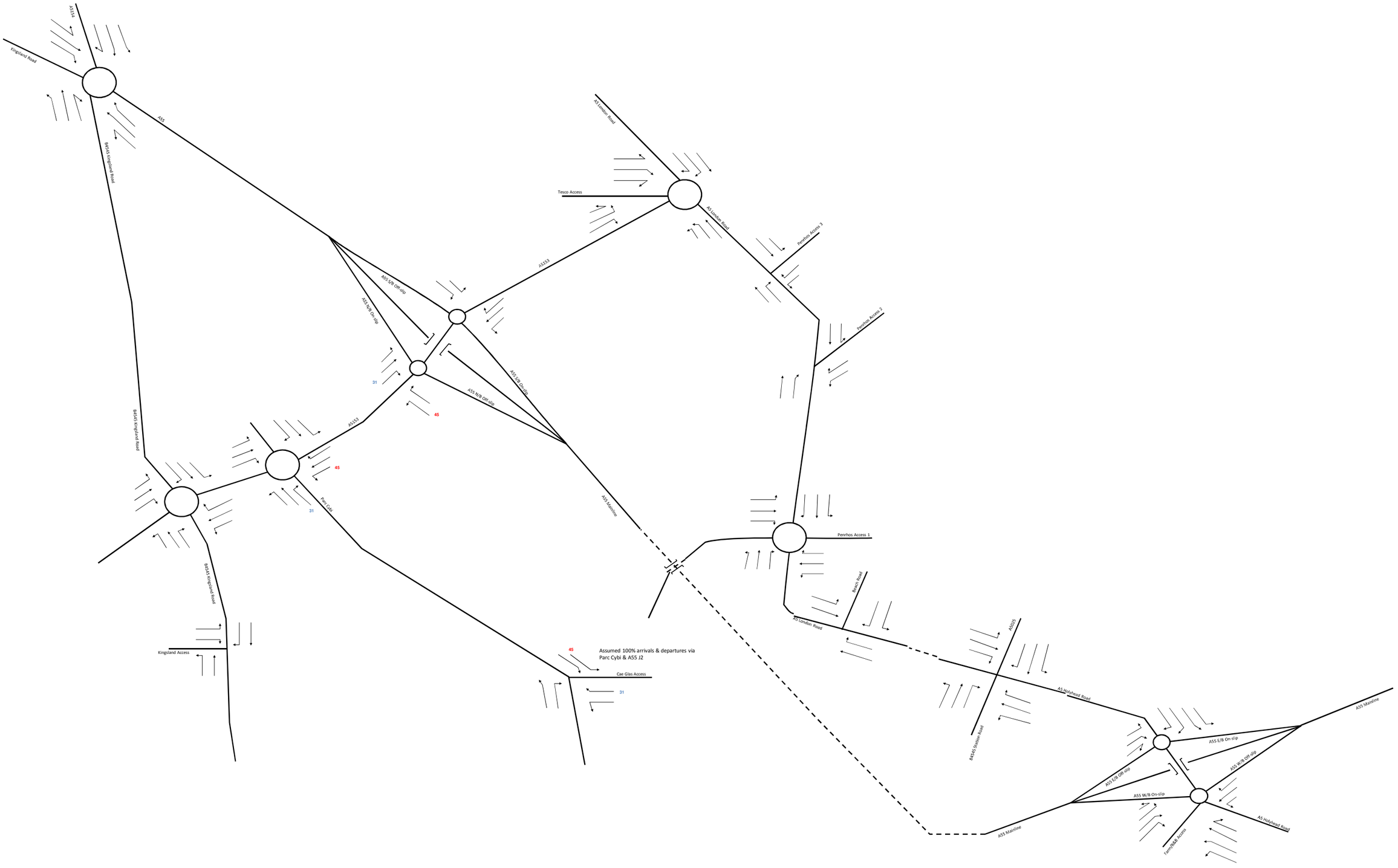
Project: Penrhos Leisure Village
Scenario: Figure 29: Cae Glas Check-in/Check-out Development Trips
Peak: Friday AM Peak (0830-0930)
Notes:

Arrivals = 42
Departures = 43



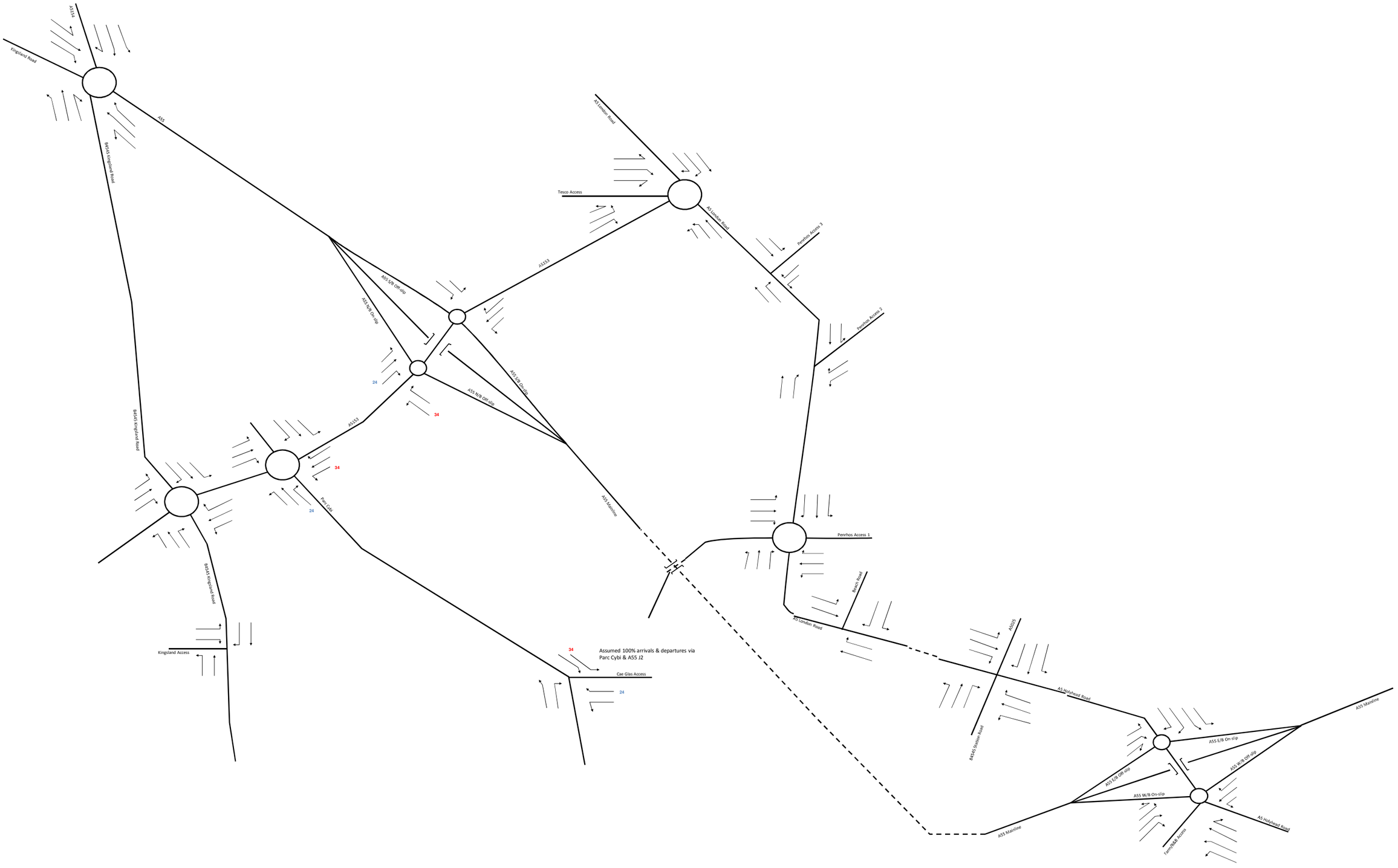
Project: Penrhos Leisure Village
Scenario: Figure 30: Cae Glas Check-in/Check-out Development Trips
Peak: Friday PM Peak (1545-1645)
Notes:

Arrivals = 45
Departures = 31

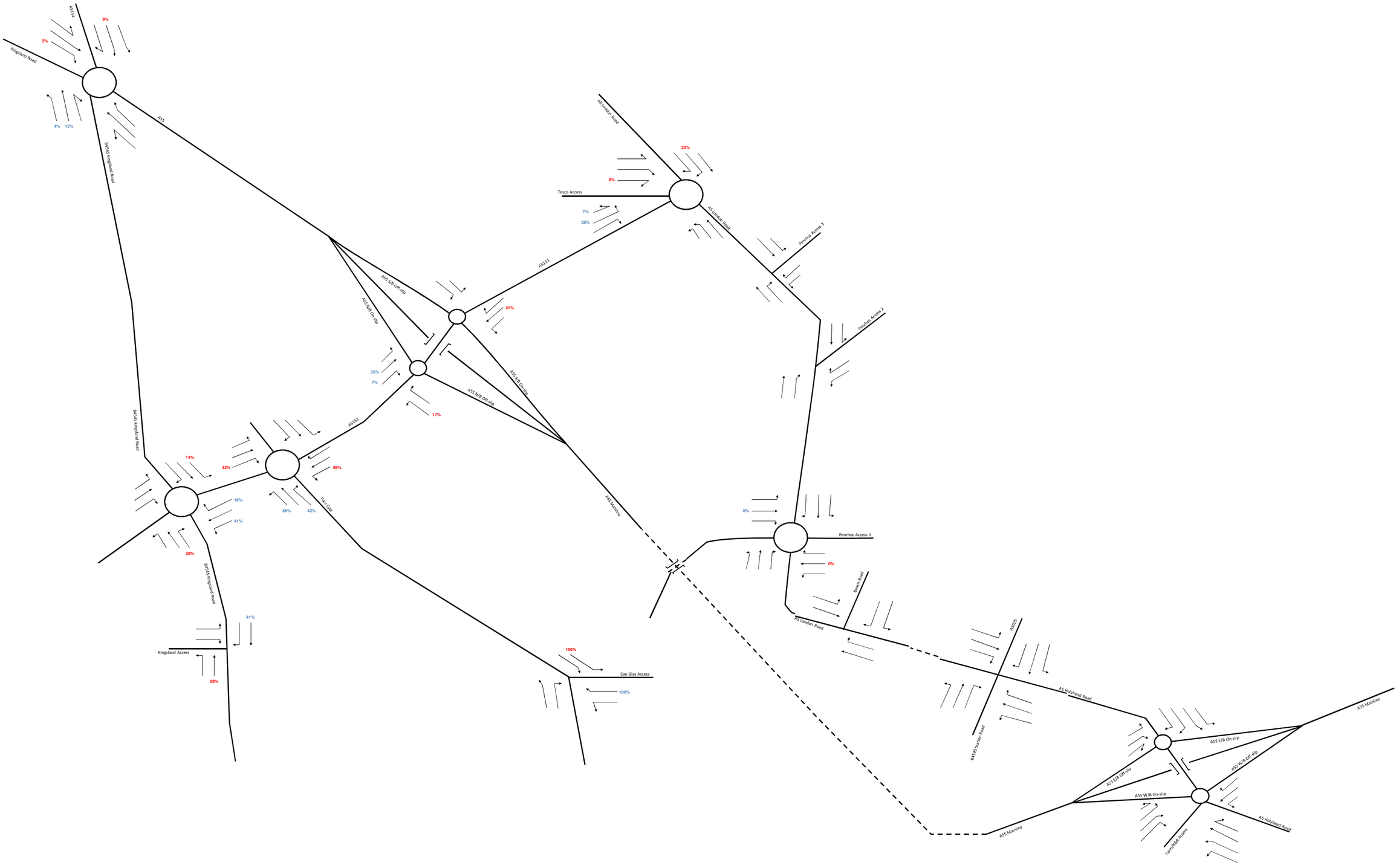


Project: Penrhos Leisure Village
Scenario: Figure 31: Cae Glas Check-in/Check-out Development Trips
Peak: Saturday Peak (1215-1315)
Notes:

Arrivals = 34
Departures = 24

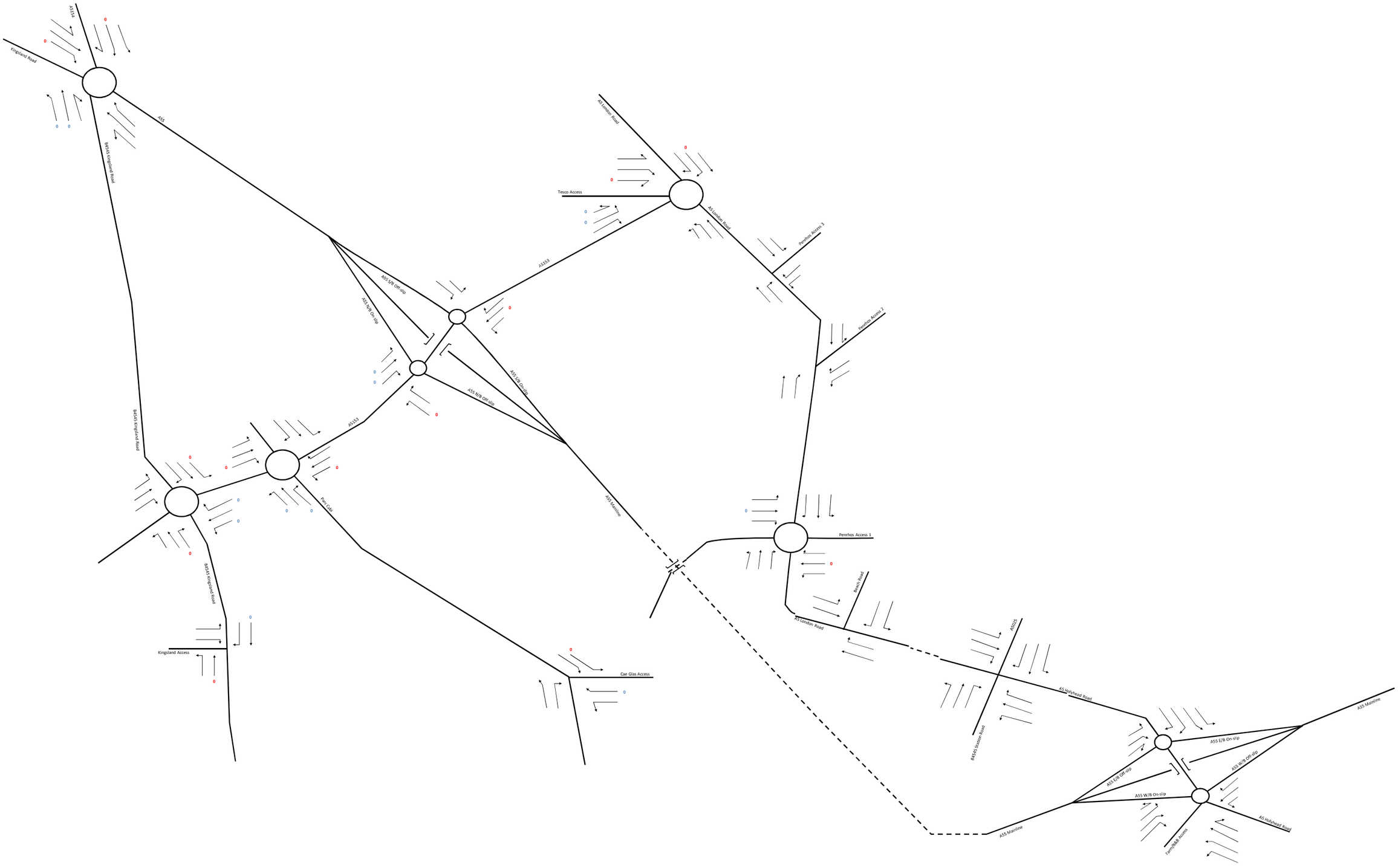


Project: Penrhos Leisure Village
Scenario: Figure 32: Cae Glas Leisure Distribution
Peak: All
Notes: Based on Observed Turning Movements
Arrivals in Red
Departures in Blue



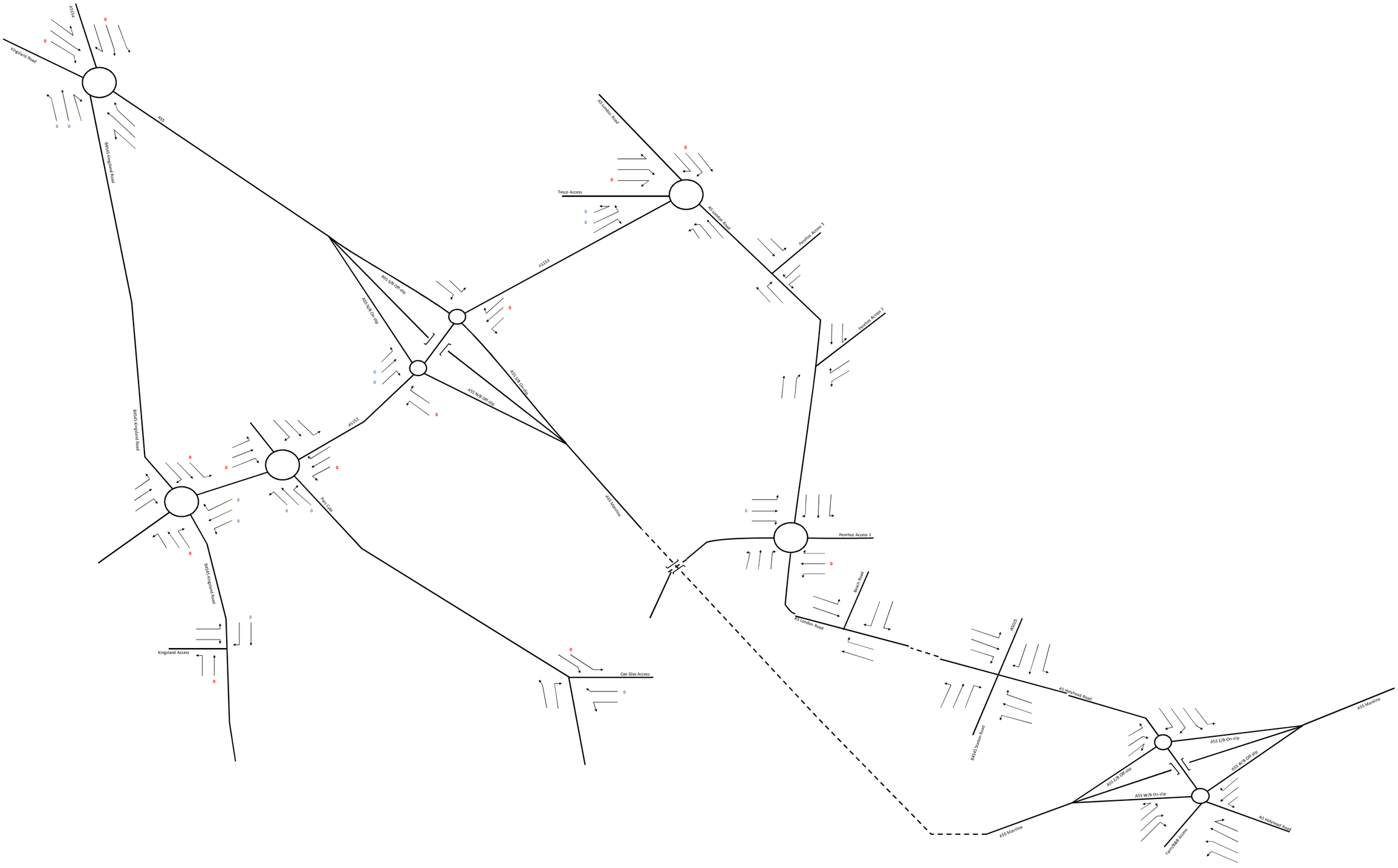
Project: Penrhos Leisure Village
Scenario: Figure 33: Cae Glas Leisure Development Trips
Peak: Friday AM Peak (0830-0930)
Notes:

Arrivals = 0
Departures = 0



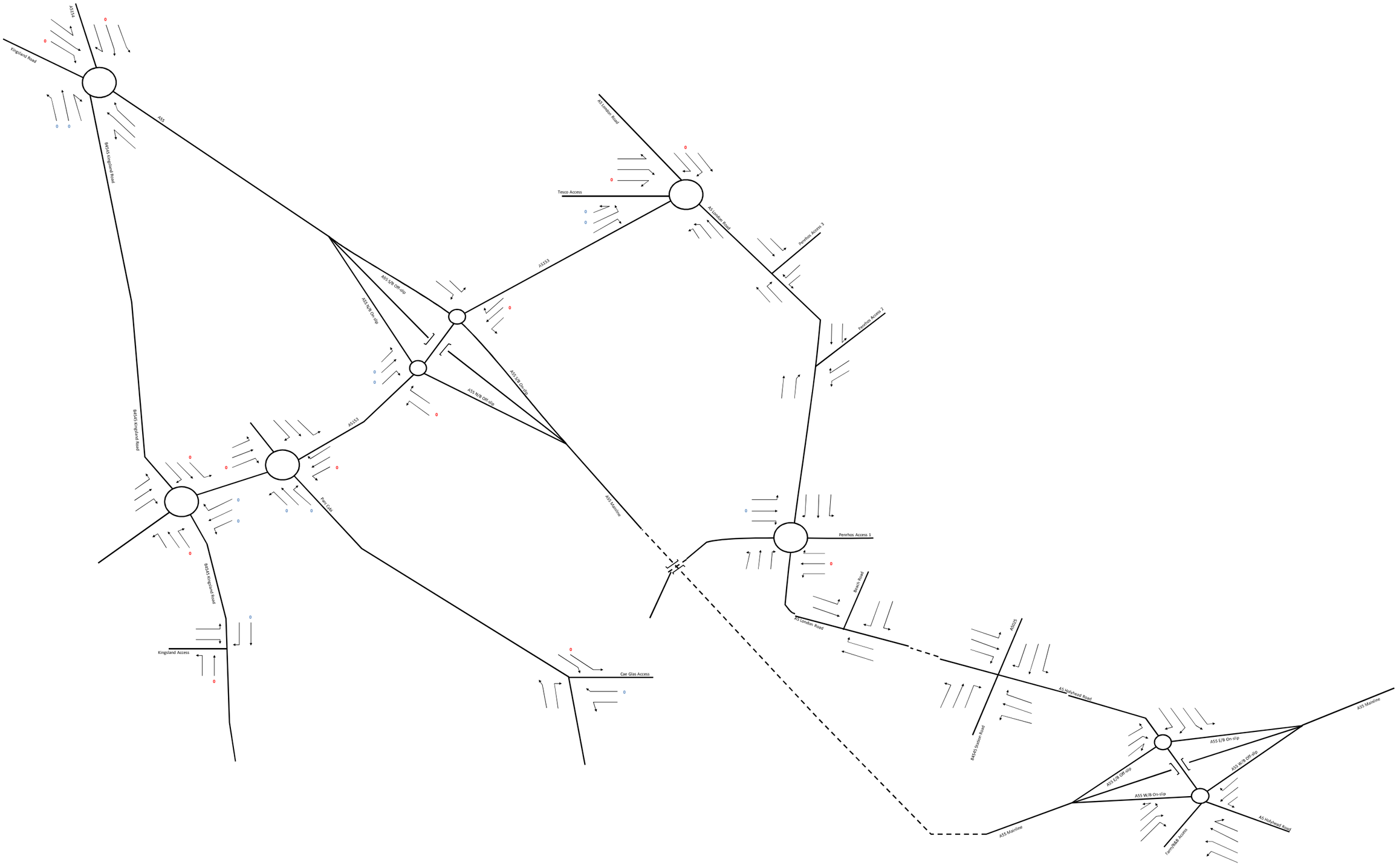
Project: Penrhos Leisure Village
Scenario: Figure 34: Cae Glas Leisure Development Trips
Peak: Friday PM Peak (1545-1645)
Notes:

Arrivals = 0
Departures = 0

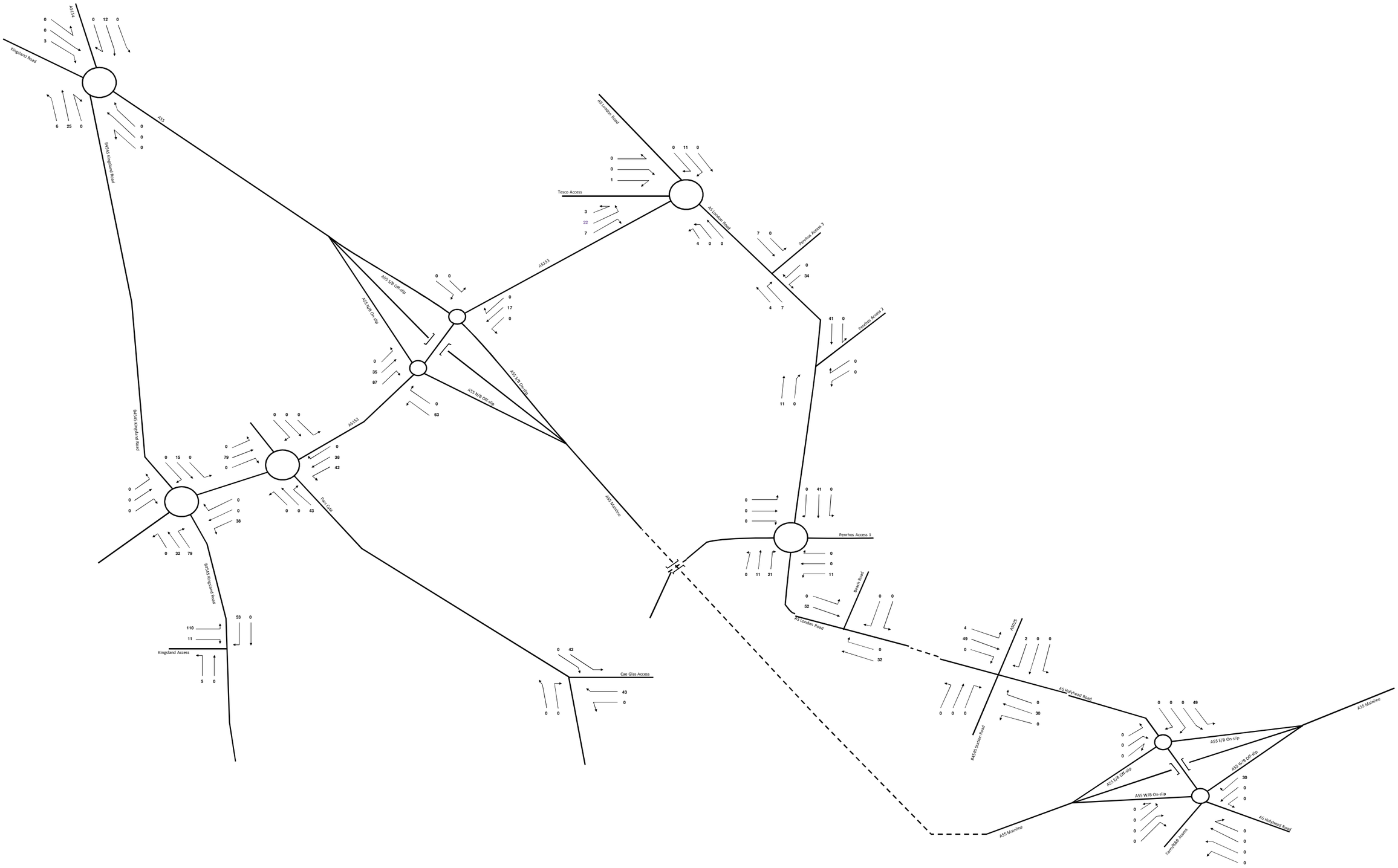


Project: Penrhos Leisure Village
Scenario: Figure 35: Cae Glas Leisure Development Trips
Peak: Saturday Peak (1215-1315)
Notes:

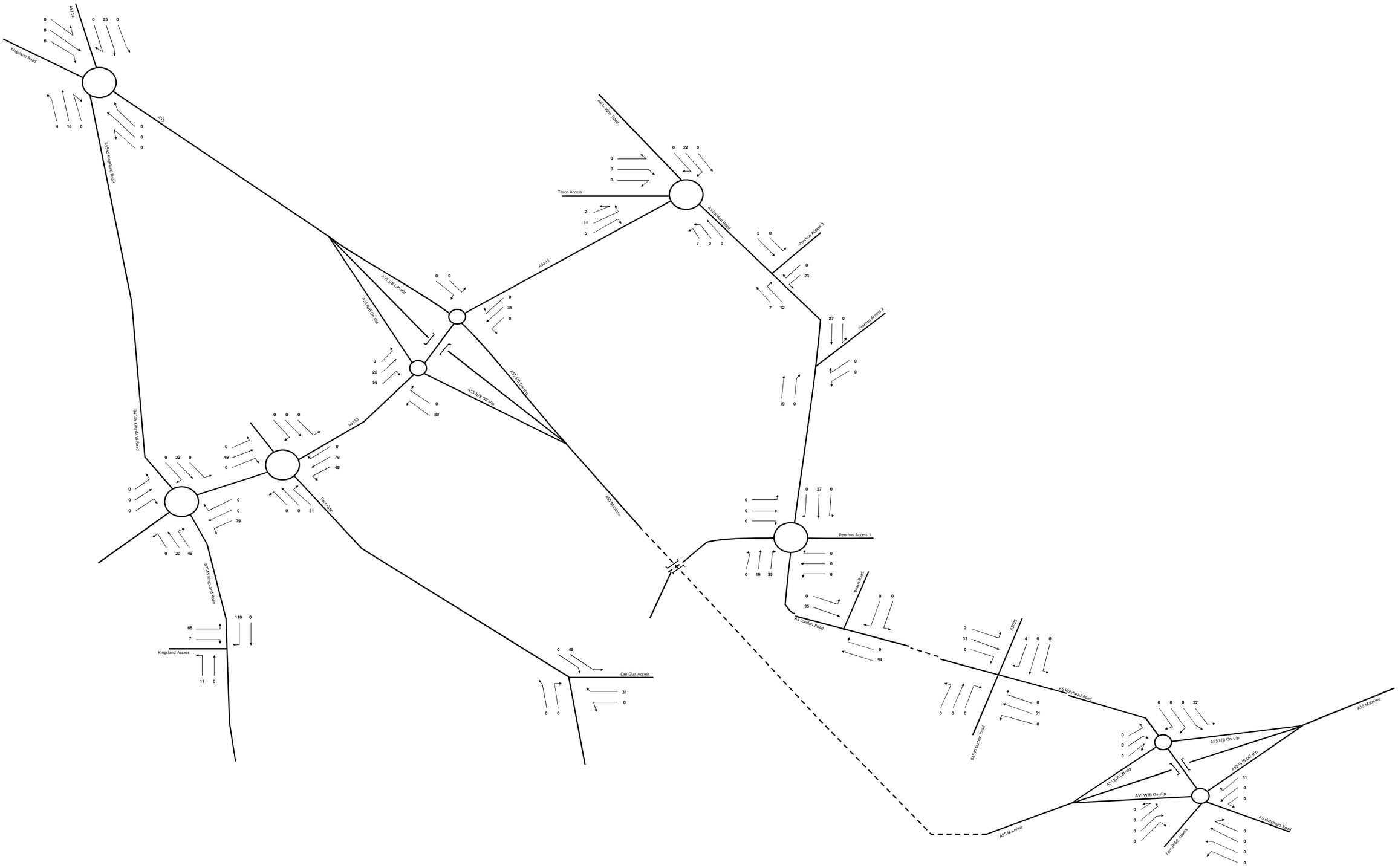
Arrivals = 0
Departures = 0



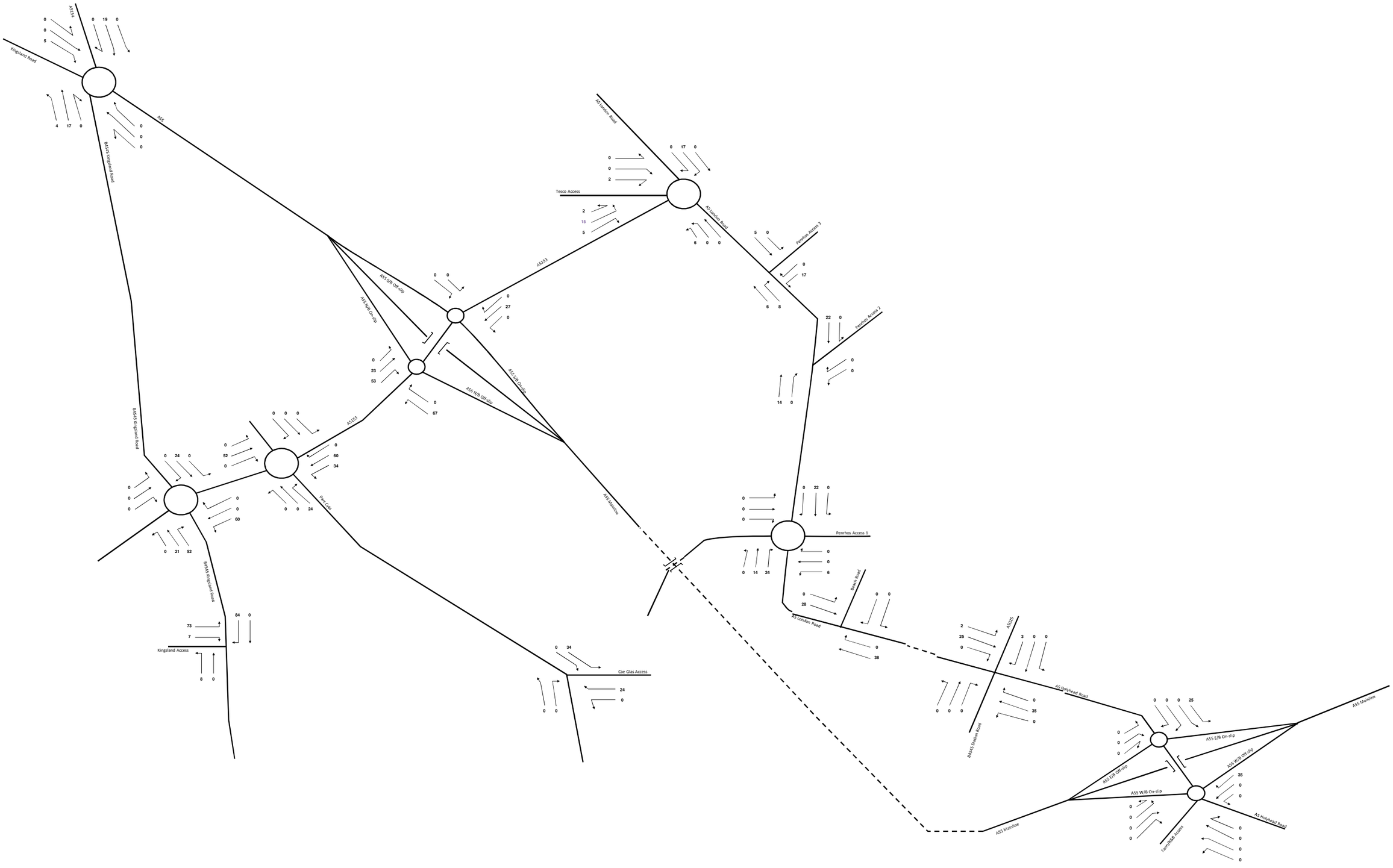
Project: Penrhos Leisure Village
Scenario: Figure 36: 2022 Total Development Trips
Peak: Friday AM Peak (0830-0930)



Project: Penrhos Leisure Village
Scenario: Figure 37: 2022 Total Development Trips
Peak: Friday PM Peak (1545-1645)



Project: Penrhos Leisure Village
Scenario: Figure 38: 2022 Total Development Trips
Peak: Saturday Peak (1215-1315)



Appendix C – Revised Modelling Outputs

TRL LIMITED

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 5.0 (JUNE 2010) (Patch 15 Apr 2011)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE SALES
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: software@trl.co.uk

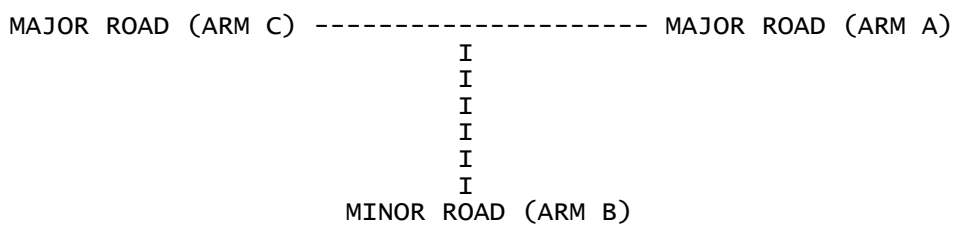
Run with file:-
"L:\Manchester Projects\90145 Penrhos Leisure Village Anglesey\I -Calculations\Revised Part Cybi\Modelling\
12. A5_Penrhos Secondary Access_AMPM.vpi"
(drive-on-the-left) at 11:51:54 on Monday, 25 February 2013

.RUN INFORMATION
****

RUN TITLE : A5_Penrhos Secondary Access - Weekday
LOCATION : Penrhos, Anglesey
DATE : 01/02/13
CLIENT : Land and Lakes Ltd
ENUMERATOR : T Nichol
JOB NUMBER : 90145
STATUS :
DESCRIPTION : Existing layout

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A5 London Road (N)
ARM B IS Penrhos Secondary Access
ARM C IS A5 London Road (S)

.STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B)160.00 M.
- BLOCKS TRAFFIC (SPACES)	YES (0)
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 200.0 M.
- VISIBILITY TO RIGHT	(VB-A) 200.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.
WIDTH AT 5 M FROM JUNCTION	7.50 M.
WIDTH AT 10 M FROM JUNCTION	4.25 M.
WIDTH AT 15 M FROM JUNCTION	2.75 M.
WIDTH AT 20 M FROM JUNCTION	2.25 M.
- LENGTH OF FLARED SECTION	DERIVED: 1 PCU

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
666.62	0.25	0.25

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
A	100
B	100
C	100

.Demand set: AM Base+Com+Dev 2032

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	3.30	4.95	3.30
ARM B	15.00	45.00	75.00	0.43	0.64	0.43
ARM C	15.00	45.00	75.00	6.43	9.64	6.43

.Demand set: AM Base+Com+Dev 2032

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.000	1.000
		0.0	0.0	264.0
		(0.0)	(0.0)	(5.8)
	ARM B	0.000	0.000	1.000
		0.0	0.0	34.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.986	0.014	0.000
		507.0	7.0	0.0
		(2.5)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET AM Base+Com+Dev 2032
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.43	12.50	0.034		0.00	0.04	0.5		0.08
B-A	0.00	8.43	0.000		0.00	0.00	0.0		0.00
C-AB	0.15	14.23	0.010		0.00	0.01	0.2		0.07
C-A	6.30								
A-B	0.00								
A-C	3.31								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.51	12.30	0.041		0.04	0.04	0.6		0.08
B-A	0.00	8.00	0.000		0.00	0.00	0.0		0.00
C-AB	0.19	14.81	0.013		0.01	0.01	0.2		0.07
C-A	7.51								
A-B	0.00								
A-C	3.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.62	12.02	0.052		0.04	0.05	0.8		0.09
B-A	0.00	7.42	0.000		0.00	0.00	0.0		0.00
C-AB	0.27	15.59	0.017		0.01	0.02	0.3		0.07
C-A	9.16								
A-B	0.00								
A-C	4.84								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)

09.00-09.15								
B-C	0.62	12.02	0.052	0.05	0.05	0.8	0.09	
B-A	0.00	7.42	0.000	0.00	0.00	0.0	0.00	
C-AB	0.27	15.59	0.017	0.02	0.02	0.3	0.07	
C-A	9.16							
A-B	0.00							
A-C	4.84							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-C	0.51	12.30	0.041		0.05	0.04	0.7		0.08
B-A	0.00	8.00	0.000		0.00	0.00	0.0		0.00
C-AB	0.19	14.82	0.013		0.02	0.01	0.2		0.07
C-A	7.51								
A-B	0.00								
A-C	3.96								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-C	0.43	12.50	0.034		0.04	0.04	0.5		0.08
B-A	0.00	8.42	0.000		0.00	0.00	0.0		0.00
C-AB	0.15	14.23	0.010		0.01	0.01	0.2		0.07
C-A	6.30								
A-B	0.00								
A-C	3.31								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0

09.00	0.1
09.15	0.1
09.30	0.0
09.45	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	46.8	31.2	4.0	0.08	4.0	0.08
B-A	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	18.4	12.2	1.4	0.08	1.4	0.08
C-A	689.1	459.4				
A-B	0.0	0.0				
A-C	363.4	242.3				
ALL	1117.7	745.1	5.4	0.00	5.4	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
666.62	0.25	0.25

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100

I B	I	100 I
I C	I	100 I

.Demand set: PM Base+Com+Dev 2032

TIME PERIOD BEGINS 15.30 AND ENDS 17.00

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.75	11.63	7.75
ARM B	15.00	45.00	75.00	0.29	0.43	0.29
ARM C	15.00	45.00	75.00	6.30	9.45	6.30

.Demand set: PM Base+Com+Dev 2032

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
15.30 - 17.00	ARM A	0.000	0.000	1.000
		0.0	0.0	620.0
		(0.0)	(0.0)	(1.5)
	ARM B	0.000	0.000	1.000
		0.0	0.0	23.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.976	0.024	0.000
		492.0	12.0	0.0
		(4.0)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET PM Base+Com+Dev 2032
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.30-15.45									
B-C	0.29	11.18	0.026		0.00	0.03	0.4		0.09
B-A	0.00	7.19	0.000		0.00	0.00	0.0		0.00
C-AB	0.26	13.23	0.020		0.00	0.02	0.4		0.08
C-A	6.06								
A-B	0.00								
A-C	7.78								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.45-16.00									
B-C	0.34	10.72	0.032		0.03	0.03	0.5		0.10
B-A	0.00	6.53	0.000		0.00	0.00	0.0		0.00
C-AB	0.35	13.67	0.026		0.02	0.03	0.5		0.08
C-A	7.20								
A-B	0.00								
A-C	9.29								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.42	10.08	0.042		0.03	0.04	0.6		0.10
B-A	0.00	5.62	0.000		0.00	0.00	0.0		0.00
C-AB	0.50	14.27	0.035		0.03	0.05	0.7		0.07
C-A	8.75								
A-B	0.00								

A-C	11.38

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.42	10.08	0.042		0.04	0.04	0.7		0.10
B-A	0.00	5.62	0.000		0.00	0.00	0.0		0.00
C-AB	0.50	14.27	0.035		0.05	0.05	0.7		0.07
C-A	8.75								
A-B	0.00								
A-C	11.38								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.34	10.72	0.032		0.04	0.03	0.5		0.10
B-A	0.00	6.53	0.000		0.00	0.00	0.0		0.00
C-AB	0.35	13.67	0.026		0.05	0.03	0.5		0.08
C-A	7.20								
A-B	0.00								
A-C	9.29								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.29	11.18	0.026		0.03	0.03	0.4		0.09
B-A	0.00	7.19	0.000		0.00	0.00	0.0		0.00
C-AB	0.26	13.23	0.020		0.03	0.02	0.4		0.08
C-A	6.06								
A-B	0.00								
A-C	7.78								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
15.45	0.0
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
15.45	0.0
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
15.45	0.0
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	31.7	21.1	3.1	0.10	3.1	0.10

I	B-A	I	0.0	I	0.0	I	0.0	I	0.00	I	0.0	I	0.00	I
I	C-AB	I	33.5	I	22.4	I	3.1	I	0.09	I	3.1	I	0.09	I
I	C-A	I	660.2	I	440.1	I		I		I		I		I
I	A-B	I	0.0	I	0.0	I		I		I		I		I
I	A-C	I	853.4	I	568.9	I		I		I		I		I
I	ALL	I	1578.8	I	1052.5	I	6.2	I	0.00	I	6.2	I	0.00	I

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

I Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
666.62	0.25	0.25

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

.Demand set: AM Base+Dev 2032

TIME PERIOD BEGINS 08.15 AND ENDS 09.45

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	3.08	4.61	3.08
ARM B	15.00	45.00	75.00	0.41	0.62	0.41
ARM C	15.00	45.00	75.00	4.45	6.67	4.45

.Demand set: AM Base+Dev 2032

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C
08.15 - 09.45	ARM A	0.000	0.020	0.980
		0.0	5.0	241.0
		(0.0)	(0.0)	(6.3)

	ARM B	0.242	0.000	0.758
		8.0	0.0	25.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.986	0.014	0.000
		351.0	5.0	0.0
		(3.7)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET AM Base+Dev 2032
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.15-08.30									
B-C	0.31	12.55	0.025		0.00	0.03	0.4		0.08
B-A	0.10	9.74	0.010		0.00	0.01	0.2		0.10
C-AB	0.09	13.09	0.007		0.00	0.01	0.1		0.08
C-A	4.38								
A-B	0.06								
A-C	3.02								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
08.30-08.45									
B-C	0.37	12.35	0.030		0.03	0.03	0.5		0.08
B-A	0.12	9.37	0.013		0.01	0.01	0.2		0.11
C-AB	0.12	13.47	0.009		0.01	0.01	0.1		0.07
C-A	5.22								
A-B	0.07								
A-C	3.61								

TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	GEOMETRIC DELAY	AVERAGE DELAY

	(VEH/MIN)	(VEH/MIN)	CAPACITY (RFC)	FLOW (PEDS/MIN)	QUEUE (VEHS)	QUEUE (VEHS)	(VEH.MIN/ TIME SEGMENT)	(VEH.MIN/ TIME SEGMENT)	PER ARRIVING VEHICLE (MIN)
08.45-09.00									
B-C	0.46	12.08	0.038		0.03	0.04	0.6		0.09
B-A	0.15	8.86	0.017		0.01	0.02	0.2		0.11
C-AB	0.16	14.00	0.011		0.01	0.01	0.2		0.07
C-A	6.37								
A-B	0.09								
A-C	4.42								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-C	0.46	12.08	0.038		0.04	0.04	0.6		0.09
B-A	0.15	8.86	0.017		0.02	0.02	0.3		0.11
C-AB	0.16	14.00	0.011		0.01	0.01	0.2		0.07
C-A	6.37								
A-B	0.09								
A-C	4.42								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.15-09.30									
B-C	0.37	12.35	0.030		0.04	0.03	0.5		0.08
B-A	0.12	9.37	0.013		0.02	0.01	0.2		0.11
C-AB	0.12	13.47	0.009		0.01	0.01	0.1		0.07
C-A	5.22								
A-B	0.07								
A-C	3.61								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.30-09.45									
B-C	0.31	12.55	0.025		0.03	0.03	0.4		0.08

I	B-A	0.10	9.74	0.010	0.01	0.01	0.2	0.10	I
I	C-AB	0.09	13.09	0.007	0.01	0.01	0.1	0.08	I
I	C-A	4.37							I
I	A-B	0.06							I
I	A-C	3.02							I
I									I

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0
09.30	0.0
09.45	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-C	34.4	22.9	2.9	0.08	2.9	0.08
B-A	11.0	7.3	1.2	0.11	1.2	0.11
C-AB	11.1	7.4	0.9	0.08	0.9	0.08
C-A	479.0	319.3				
A-B	6.9	4.6				
A-C	331.7	221.1				
ALL	874.0	582.7	5.0	0.01	5.0	0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
666.62	0.25	0.25

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

.Demand set: PM Base+Dev 2032

TIME PERIOD BEGINS 15.30 AND ENDS 17.00

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ARM A	15.00	45.00	75.00	5.93	8.89	5.93
ARM B	15.00	45.00	75.00	0.29	0.43	0.29
ARM C	15.00	45.00	75.00	5.16	7.74	5.16

.Demand set: PM Base+Dev 2032

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
15.30 - 17.00				
	ARM A	0.000	0.019	0.981
		0.0	9.0	465.0
		(0.0)	(0.0)	(2.0)
	ARM B	0.261	0.000	0.739
		6.0	0.0	17.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.978	0.022	0.000
		404.0	9.0	0.0
		(4.9)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET PM Base+Dev 2032
AND FOR TIME PERIOD 2

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.30-15.45									
B-C	0.21	11.73	0.018		0.00	0.02	0.3		0.09
B-A	0.08	8.72	0.009		0.00	0.01	0.1		0.12
C-AB	0.18	12.90	0.014		0.00	0.02	0.2		0.08
C-A	5.00								
A-B	0.11								
A-C	5.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
15.45-16.00									
B-C	0.25	11.37	0.022		0.02	0.02	0.3		0.09
B-A	0.09	8.15	0.011		0.01	0.01	0.2		0.12
C-AB	0.23	13.27	0.018		0.02	0.02	0.3		0.08

	C-A	5.95							
	A-B	0.13							
	A-C	6.97							

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.00-16.15									
B-C	0.31	10.88	0.029		0.02	0.03	0.4		0.09
B-A	0.11	7.37	0.015		0.01	0.02	0.2		0.14
C-AB	0.32	13.78	0.023		0.02	0.03	0.4		0.07
C-A	7.26								
A-B	0.17								
A-C	8.53								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.15-16.30									
B-C	0.31	10.88	0.029		0.03	0.03	0.4		0.09
B-A	0.11	7.37	0.015		0.02	0.02	0.2		0.14
C-AB	0.32	13.78	0.023		0.03	0.03	0.4		0.07
C-A	7.26								
A-B	0.17								
A-C	8.53								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.30-16.45									
B-C	0.25	11.37	0.022		0.03	0.02	0.4		0.09
B-A	0.09	8.15	0.011		0.02	0.01	0.2		0.12
C-AB	0.23	13.27	0.018		0.03	0.02	0.3		0.08
C-A	5.95								
A-B	0.13								
A-C	6.97								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
16.45-17.00									
B-C	0.21	11.73	0.018		0.02	0.02	0.3		0.09
B-A	0.08	8.72	0.009		0.01	0.01	0.1		0.12
C-AB	0.18	12.90	0.014		0.02	0.02	0.2		0.08
C-A	5.00								
A-B	0.11								
A-C	5.83								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
15.45	0.0
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
15.45	0.0
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE

15.45	0.0
16.00	0.0
16.15	0.0
16.30	0.0
16.45	0.0
17.00	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	23.4	15.6	2.1	0.09	2.1	0.09
B-A	8.3	5.5	1.0	0.13	1.0	0.13
C-AB	22.0	14.7	2.0	0.09	2.0	0.09
C-A	546.4	364.3				
A-B	12.4	8.3				
A-C	640.0	426.7				
ALL	1252.5	835.0	5.1	0.00	5.1	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 5.0 (JUNE 2010) (Patch 15 Apr 2011)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE SALES
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: software@trl.co.uk

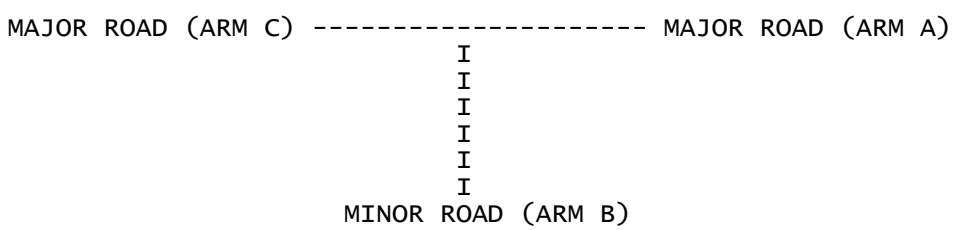
Run with file:-
"L:\Manchester Projects\90145 Penrhos Leisure Village Anglesey\I -Calculations\Revised Part Cybi\Modelling\
12. A5_Penrhos Secondary Access_Sat.vpi"
(drive-on-the-left) at 11:52:58 on Monday, 25 February 2013

.RUN INFORMATION
****

RUN TITLE	: A5_Penrhos Secondary Access - Saturday
LOCATION	: Penrhos, Anglesey
DATE	: 01/02/13
CLIENT	: Land and Lakes Ltd
ENUMERATOR	: T Nichol
JOB NUMBER	: 90145
STATUS	:
DESCRIPTION	: Existing layout

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A5 London Road (N)
ARM B IS Penrhos Secondary Access
ARM C IS A5 London Road (S)

.STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

.GEOMETRIC DATA

DATA ITEM	MINOR ROAD B
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W) 7.00 M.
CENTRAL RESERVE WIDTH	(WCR) 0.00 M.
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B) 2.20 M.
- VISIBILITY	(VC-B)160.00 M.
- BLOCKS TRAFFIC (SPACES)	YES (0)
MINOR ROAD - VISIBILITY TO LEFT	(VB-C) 200.0 M.
- VISIBILITY TO RIGHT	(VB-A) 200.0 M.
- LANE 1 WIDTH	(WB-C) -
- LANE 2 WIDTH	(WB-A) -
WIDTH AT 0 M FROM JUNCTION	10.00 M.
WIDTH AT 5 M FROM JUNCTION	7.50 M.

WIDTH AT 10 M FROM JUNCTION	4.25 M.	
WIDTH AT 15 M FROM JUNCTION	2.75 M.	
WIDTH AT 20 M FROM JUNCTION	2.25 M.	
- LENGTH OF FLARED SECTION	DERIVED: 1 PCU	

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
666.62	0.25	0.25

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)

A		100
B		100
C		100

.Demand set: Sat Base+Com+Dev 2032

TIME PERIOD BEGINS 12.00 AND ENDS 13.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	5.70	8.55	5.70
ARM B	15.00	45.00	75.00	0.21	0.32	0.21
ARM C	15.00	45.00	75.00	4.79	7.18	4.79

.Demand set: Sat Base+Com+Dev 2032

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
12.00 - 13.30	ARM A	0.000	0.000	1.000
		0.0	0.0	456.0
		(0.0)	(0.0)	(0.5)
	ARM B	0.000	0.000	1.000
		0.0	0.0	17.0
		(0.0)	(0.0)	(0.0)

	ARM C	0.979	0.021	0.000
		375.0	8.0	0.0
		(0.9)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Sat Base+Com+Dev 2032
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.00-12.15									
B-C	0.21	11.83	0.018		0.00	0.02	0.3		0.09
B-A	0.00	8.10	0.000		0.00	0.00	0.0		0.00
C-AB	0.15	12.80	0.012		0.00	0.01	0.2		0.08
C-A	4.65								
A-B	0.00								
A-C	5.72								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.15-12.30									
B-C	0.25	11.49	0.022		0.02	0.02	0.3		0.09
B-A	0.00	7.62	0.000		0.00	0.00	0.0		0.00
C-AB	0.20	13.14	0.015		0.01	0.02	0.3		0.08
C-A	5.54								
A-B	0.00								
A-C	6.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME SEGMENT)	TIME SEGMENT)	VEHICLE (MIN)
12.30-12.45									
B-C	0.31	11.03	0.028		0.02	0.03	0.4		0.09
B-A	0.00	6.95	0.000		0.00	0.00	0.0		0.00
C-AB	0.27	13.63	0.020		0.02	0.02	0.4		0.07
C-A	6.75								
A-B	0.00								
A-C	8.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.45-13.00									
B-C	0.31	11.03	0.028		0.03	0.03	0.4		0.09
B-A	0.00	6.95	0.000		0.00	0.00	0.0		0.00
C-AB	0.27	13.63	0.020		0.02	0.02	0.4		0.07
C-A	6.75								
A-B	0.00								
A-C	8.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
13.00-13.15									
B-C	0.25	11.49	0.022		0.03	0.02	0.3		0.09
B-A	0.00	7.62	0.000		0.00	0.00	0.0		0.00
C-AB	0.20	13.14	0.015		0.02	0.02	0.3		0.08
C-A	5.54								
A-B	0.00								
A-C	6.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)

I 13.15-13.30								I
I B-C	0.21	11.83	0.018	0.02	0.02	0.3	0.09	I
I B-A	0.00	8.10	0.000	0.00	0.00	0.0	0.00	I
I C-AB	0.15	12.80	0.012	0.02	0.01	0.2	0.08	I
I C-A	4.65							I
I A-B	0.00							I
I A-C	5.72							I
I								I

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.15	0.0
12.30	0.0
12.45	0.0
13.00	0.0
13.15	0.0
13.30	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.15	0.0
12.30	0.0
12.45	0.0
13.00	0.0
13.15	0.0
13.30	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.15	0.0
12.30	0.0
12.45	0.0

13.00	0.0
13.15	0.0
13.30	0.0

.

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	23.4	15.6	2.1	0.09	2.1	0.09
B-A	0.0	0.0	0.0	0.00	0.0	0.00
C-AB	18.8	12.5	1.7	0.09	1.7	0.09
C-A	508.4	338.9				
A-B	0.0	0.0				
A-C	627.7	418.4				
ALL	1178.2	785.5	3.7	0.00	3.7	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

Intercept For STREAM B-C	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM B-A	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B	Slope For Opposing STREAM C-A	Slope For Opposing STREAM C-B
0.00	0.00	0.00	0.00	0.00

* Due to the presence of a flare, data is not available

Intercept For STREAM C-B	Slope For Opposing STREAM A-C	Slope For Opposing STREAM A-B
666.62	0.25	0.25

(NB These values do not allow for any site specific corrections)

.TRAFFIC DEMAND DATA

ARM	FLOW SCALE(%)
A	100
B	100
C	100

.Demand set: Sat Base+Dev 2032

TIME PERIOD BEGINS 12.00 AND ENDS 13.30

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK

ARM A	15.00	45.00	75.00	5.78	8.66	5.78
ARM B	15.00	45.00	75.00	0.21	0.32	0.21
ARM C	15.00	45.00	75.00	4.76	7.14	4.76

Demand set: Sat Base+Dev 2032

TURNING PROPORTIONS
TURNING COUNTS
(PERCENTAGE OF H.V.S)

TIME	FROM/TO	ARM A	ARM B	ARM C
12.00 - 13.30	ARM A	0.000	0.013	0.987
		0.0	6.0	456.0
		(0.0)	(0.0)	(0.5)
	ARM B	0.235	0.000	0.765
		4.0	0.0	13.0
		(0.0)	(0.0)	(0.0)
	ARM C	0.984	0.016	0.000
		375.0	6.0	0.0
		(0.9)	(0.0)	(0.0)

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR DEMAND SET Sat Base+Dev 2032
AND FOR TIME PERIOD 1

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.00-12.15									
B-C	0.16	11.80	0.014		0.00	0.01	0.2		0.09
B-A	0.05	8.92	0.006		0.00	0.01	0.1		0.11
C-AB	0.12	12.78	0.009		0.00	0.01	0.1		0.08

C-A	4.67								
A-B	0.08								
A-C	5.72								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.15-12.30									
B-C	0.19	11.46	0.017		0.01	0.02	0.3		0.09
B-A	0.06	8.39	0.007		0.01	0.01	0.1		0.12
C-AB	0.15	13.13	0.011		0.01	0.01	0.2		0.08
C-A	5.56								
A-B	0.09								
A-C	6.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.30-12.45									
B-C	0.24	10.99	0.022		0.02	0.02	0.3		0.09
B-A	0.07	7.65	0.010		0.01	0.01	0.1		0.13
C-AB	0.21	13.61	0.015		0.01	0.02	0.3		0.07
C-A	6.79								
A-B	0.11								
A-C	8.37								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
12.45-13.00									
B-C	0.24	10.99	0.022		0.02	0.02	0.3		0.09
B-A	0.07	7.65	0.010		0.01	0.01	0.1		0.13
C-AB	0.21	13.61	0.015		0.02	0.02	0.3		0.07
C-A	6.79								

I	A-B	0.11							I
I	A-C	8.37							I
I									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
13.00-13.15									
B-C	0.19	11.46	0.017		0.02	0.02	0.3		0.09
B-A	0.06	8.39	0.007		0.01	0.01	0.1		0.12
C-AB	0.15	13.13	0.011		0.02	0.01	0.2		0.08
C-A	5.56								
A-B	0.09								
A-C	6.83								

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
13.15-13.30									
B-C	0.16	11.80	0.014		0.02	0.01	0.2		0.09
B-A	0.05	8.92	0.006		0.01	0.01	0.1		0.11
C-AB	0.12	12.78	0.009		0.01	0.01	0.1		0.08
C-A	4.67								
A-B	0.08								
A-C	5.72								

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.15	0.0
12.30	0.0
12.45	0.0
13.00	0.0

13.15	0.0
13.30	0.0

QUEUE FOR STREAM B-A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.15	0.0
12.30	0.0
12.45	0.0
13.00	0.0
13.15	0.0
13.30	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
12.15	0.0
12.30	0.0
12.45	0.0
13.00	0.0
13.15	0.0
13.30	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-C	17.9	11.9	1.6	0.09	1.6	0.09
B-A	5.5	3.7	0.7	0.12	0.7	0.12
C-AB	14.1	9.4	1.2	0.08	1.2	0.08
C-A	510.3	340.2				
A-B	8.3	5.5				
A-C	627.7	418.4				
ALL	1183.7	789.2	3.5	0.00	3.5	0.00

---

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*******END OF RUN*******

ARCADY 7

Version: 7.1.1.245 [9th June 2011]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

File: L:\Manchester Projects\90145 Penrhos Leisure Village Anglesey\I -Calculations\Revised Part Cybi\Modelling\2. A55_Junction 2_2032_Flat.arc7
Report generation date: 25/02/2013 13:57:16

Summary of roundabout performance

	AM		PM		Sat	
	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC
	(Default Analysis Set) - Base+Com 2032					
Eastern Dumb-bell - A5153 East	0.69	0.41	1.49	0.60	0.67	0.40
Eastern Dumb-bell - A5153 Bridge	0.32	0.25	1.09	0.52	0.30	0.23
Eastern Dumb-bell - A55 S/B Off-slip	0.35	0.26	1.22	0.55	0.42	0.29
Western Dumb-bell - A5153 Bridge	0.27	0.22	0.32	0.24	0.21	0.17
Western Dumb-bell - A55 N/B Off-slip	1.30	0.57	0.96	0.49	0.45	0.31
Western Dumb-bell - A5153 West	0.31	0.23	2.15	0.68	0.17	0.15
	(Default Analysis Set) - Base+Com+Dev 2032					
Eastern Dumb-bell - A5153 East	0.78	0.44	1.85	0.65	0.76	0.43
Eastern Dumb-bell - A5153 Bridge	0.45	0.31	1.30	0.57	0.37	0.27
Eastern Dumb-bell - A55 S/B Off-slip	0.38	0.28	1.42	0.59	0.44	0.31
Western Dumb-bell - A5153 Bridge	0.29	0.22	0.35	0.26	0.23	0.19
Western Dumb-bell - A55 N/B Off-slip	1.74	0.64	1.46	0.59	0.61	0.38

Western Dumb-bell - A5153 West	0.49	0.33	2.98	0.75	0.27	0.21
(Default Analysis Set) - Base+Dev 2032						
Eastern Dumb-bell - A5153 East	0.36	0.26	0.81	0.45	0.76	0.43
Eastern Dumb-bell - A5153 Bridge	0.32	0.24	0.33	0.25	0.37	0.27
Eastern Dumb-bell - A55 S/B Off-slip	0.27	0.21	0.58	0.37	0.44	0.31
Western Dumb-bell - A5153 Bridge	0.12	0.11	0.24	0.19	0.23	0.19
Western Dumb-bell - A55 N/B Off-slip	0.35	0.26	0.58	0.37	0.61	0.38
Western Dumb-bell - A5153 West	0.28	0.22	0.28	0.22	0.27	0.21

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

Base+Com 2032 - AM runs from 08:30:00 to 09:30:00
Base+Com 2032 - PM runs from 15:45:00 to 16:45:00
Base+Com 2032 - Sat runs from 12:15:00 to 13:15:00
Base+Com+Dev 2032 - AM runs from 08:30:00 to 09:30:00
Base+Com+Dev 2032 - PM runs from 15:45:00 to 16:45:00
Base+Com+Dev 2032 - Sat runs from 12:15:00 to 13:15:00
Base+Dev 2032 - AM runs from 08:30:00 to 09:30:00
Base+Dev 2032 - PM runs from 15:45:00 to 16:45:00
Base+Dev 2032 - Sat runs from 12:15:00 to 13:15:00

File summary

File Description

Title	A55/Junction 2
Location	
Site Number	
Date	01/02/2013
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	T Nichol
Description	Alternative Distribution

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	PCU	PCU	perHour	min	-Min	perMin

A1 - (Default Analysis Set) - D7 - Base+Com 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, AM	Base+Com 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	

Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	521.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	259.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	561.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	299.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	521.00	521.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	259.00	N/A	N/A

1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	561.00	561.00	N/A	N/A
1	Western Dumb-bell	A5153 West	299.00	299.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	521.00	521.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	561.00	561.00	N/A	N/A
2	Western Dumb-bell	A5153 West	299.00	299.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	521.00	521.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	561.00	561.00	N/A	N/A
3	Western Dumb-bell	A5153 West	299.00	299.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	521.00	521.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	561.00	561.00	N/A	N/A
4	Western Dumb-bell	A5153 West	299.00	299.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

	To			
From	1	2	3	4

	1	0.000	117.000	404.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	301.000	149.000	0.000	0.000
	4	210.000	0.000	49.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.22	0.78	0.00
	2	0.25	0.25	0.25	0.25
	3	0.67	0.33	0.00	0.00
	4	0.81	0.00	0.19	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	328.000	126.000
	2	166.000	0.000	395.000	0.000
	3	284.000	0.000	0.000	15.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.72	0.28
	2	0.30	0.00	0.70	0.00
	3	0.95	0.00	0.00	0.05
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000

	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.41	0.08	0.69	A	521.00	521.00	40.97	0.08	0.68	40.98	0.08	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.25	0.04	0.32	A	449.32	449.32	19.32	0.04	0.32	19.32	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.26	0.08	0.35	A	259.00	259.00	20.53	0.08	0.34	20.53	0.08	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.22	0.04	0.27	A	452.40	452.40	16.38	0.04	0.27	16.38	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.57	0.14	1.30	A	561.00	561.00	76.28	0.14	1.27	76.33	0.14	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.23	0.06	0.31	A	299.00	299.00	18.24	0.06	0.30	18.24	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	521.00	130.25	518.26	507.24	196.43	0.00	1274.40	983.29	0.409	0.00	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	264.08	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	447.33	111.83	446.05	450.61	0.00	0.00	1834.73	1626.60	0.244	0.00	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	257.63	0.00	446.05	0.00	1008.95	221.44	0.257	0.00	0.34
Western Dumb-bell	**A5153 Bridge**	450.61	112.65	449.52	447.33	0.00	0.00	2098.92	1925.80	0.215	0.00	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	555.90	0.00	449.52	0.00	991.68	77.90	0.566	0.00	1.28

Western Dumb-bell	**A5153 West**	299.00	74.75	297.78	716.17	289.25	0.00	1275.01	1066.21	0.235	0.00	0.30
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	139.70	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	521.00	130.25	520.99	510.97	197.99	0.00	1273.48	983.29	0.409	0.69	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	265.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	449.97	112.49	449.96	452.99	0.00	0.00	1834.73	1626.60	0.245	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	258.99	0.00	449.96	0.00	1006.73	221.44	0.257	0.34	0.34
Western Dumb-bell	**A5153 Bridge**	452.99	113.25	452.98	449.97	0.00	0.00	2098.92	1925.80	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	560.93	0.00	452.98	0.00	989.76	77.90	0.567	1.28	1.29
Western Dumb-bell	**A5153 West**	299.00	74.75	299.00	722.21	291.70	0.00	1273.55	1066.21	0.235	0.30	0.31
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	521.00	130.25	521.00	510.99	198.00	0.00	1273.47	983.29	0.409	0.69	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	266.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	449.99	112.50	449.99	453.00	0.00	0.00	1834.73	1626.60	0.245	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	449.99	0.00	1006.71	221.44	0.257	0.34	0.35
Western Dumb-bell	**A5153 Bridge**	453.00	113.25	452.99	449.99	0.00	0.00	2098.92	1925.80	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	560.98	0.00	452.99	0.00	989.75	77.90	0.567	1.29	1.30
Western Dumb-bell	**A5153 West**	299.00	74.75	299.00	722.26	291.71	0.00	1273.54	1066.21	0.235	0.31	0.31
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

Eastern Dumb-bell	**A5153 East**	521.00	130.25	521.00	511.00	198.00	0.00	1273.47	983.29	0.409	0.69	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	266.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	450.00	112.50	450.00	453.00	0.00	0.00	1834.73	1626.60	0.245	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	450.00	0.00	1006.71	221.44	0.257	0.35	0.35
Western Dumb-bell	**A5153 Bridge**	453.00	113.25	453.00	450.00	0.00	0.00	2098.92	1925.80	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	560.99	0.00	453.00	0.00	989.74	77.90	0.567	1.30	1.30
Western Dumb-bell	**A5153 West**	299.00	74.75	299.00	722.27	291.72	0.00	1273.53	1066.21	0.235	0.31	0.31
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	9.95	0.66	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.74	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.00	0.33	0.080	A	A
Western Dumb-bell	**A5153 Bridge**	4.03	0.27	0.036	A	A
Western Dumb-bell	**A55 N/B Off-slip**	18.04	1.20	0.136	A	A
Western Dumb-bell	**A5153 West**	4.47	0.30	0.061	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.32	0.69	0.080	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.85	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.16	0.34	0.080	A	A
Western Dumb-bell	**A5153 Bridge**	4.11	0.27	0.036	A	A
Western Dumb-bell	**A55 N/B Off-slip**	19.30	1.29	0.140	A	A
Western Dumb-bell	**A5153 West**	4.58	0.31	0.062	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	10.35	0.69	0.080	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	4.86	0.32	0.043	A	A
Eastern Dumb-bell	A55 S/B Off-slip	5.18	0.35	0.080	A	A
Western Dumb-bell	A5153 Bridge	4.12	0.27	0.036	A	A
Western Dumb-bell	A55 N/B Off-slip	19.44	1.30	0.140	A	A
Western Dumb-bell	A5153 West	4.59	0.31	0.062	A	A
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	10.36	0.69	0.080	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	4.87	0.32	0.043	A	A
Eastern Dumb-bell	A55 S/B Off-slip	5.18	0.35	0.080	A	A
Western Dumb-bell	A5153 Bridge	4.12	0.27	0.036	A	A
Western Dumb-bell	A55 N/B Off-slip	19.50	1.30	0.140	A	A
Western Dumb-bell	A5153 West	4.59	0.31	0.062	A	A
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-	A55 S/B	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

bell	**Off-slip**									
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	521.00	1274.40	0.409	0.00	0.00	0.69	9.95	(0.02)	0.079
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	447.33	1834.73	0.244	0.00	0.00	0.32	4.74	(0.02)	0.043
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	1008.95	0.257	0.00	0.00	0.34	5.00	(0.02)	0.080
1	**Western Dumb-bell**	**A5153 Bridge**	450.61	2098.92	0.215	0.00	0.00	0.27	4.03	(0.02)	0.036
1	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	991.68	0.566	0.00	0.00	1.28	18.04	(0.02)	0.136
1	**Western Dumb-bell**	**A5153 West**	299.00	1275.01	0.235	0.00	0.00	0.30	4.47	(0.02)	0.061
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	521.00	1273.48	0.409	0.00	0.69	0.69	10.32	(0.02)	0.080
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	449.97	1834.73	0.245	0.00	0.32	0.32	4.85	(0.02)	0.043
2	**Eastern Dumb-**	**A55 S/B**	259.00	1006.73	0.257	0.00	0.34	0.34	5.16	(0.02)	0.080

	bell	**Off-slip**									
2	**Western Dumb-bell**	**A5153 Bridge**	452.99	2098.92	0.216	0.00	0.27	0.27	4.11	(0.02)	0.036
2	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	989.76	0.567	0.00	1.28	1.29	19.30	(0.02)	0.140
2	**Western Dumb-bell**	**A5153 West**	299.00	1273.55	0.235	0.00	0.30	0.31	4.58	(0.02)	0.062
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	521.00	1273.47	0.409	0.00	0.69	0.69	10.35	(0.02)	0.080
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	449.99	1834.73	0.245	0.00	0.32	0.32	4.86	(0.02)	0.043
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	1006.71	0.257	0.00	0.34	0.35	5.18	(0.02)	0.080
3	**Western Dumb-bell**	**A5153 Bridge**	453.00	2098.92	0.216	0.00	0.27	0.27	4.12	(0.02)	0.036
3	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	989.75	0.567	0.00	1.29	1.30	19.44	(0.02)	0.140
3	**Western Dumb-bell**	**A5153 West**	299.00	1273.54	0.235	0.00	0.31	0.31	4.59	(0.02)	0.062
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	521.00	1273.47	0.409	0.00	0.69	0.69	10.36	(0.02)	0.080
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	450.00	1834.73	0.245	0.00	0.32	0.32	4.87	(0.02)	0.043
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	1006.71	0.257	0.00	0.35	0.35	5.18	(0.02)	0.080
4	**Western Dumb-bell**	**A5153 Bridge**	453.00	2098.92	0.216	0.00	0.27	0.27	4.12	(0.02)	0.036
4	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	989.74	0.567	0.00	1.30	1.30	19.50	(0.02)	0.140
4	**Western Dumb-bell**	**A5153 West**	299.00	1273.53	0.235	0.00	0.31	0.31	4.59	(0.02)	0.062
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D8 - Base+Com 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, PM	Base+Com 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type

Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	676.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	396.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	471.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	827.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	676.00	676.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	396.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B Off-slip**	471.00	471.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 West**	827.00	827.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 East**	676.00	676.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	396.00	N/A	N/A

2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	471.00	471.00	N/A	N/A
2	Western Dumb-bell	A5153 West	827.00	827.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	676.00	676.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	471.00	471.00	N/A	N/A
3	Western Dumb-bell	A5153 West	827.00	827.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	676.00	676.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	471.00	471.00	N/A	N/A
4	Western Dumb-bell	A5153 West	827.00	827.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	204.000	472.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	549.000	410.000	0.000	0.000
	4	361.000	0.000	35.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

	To

		1	2	3	4
From	1	0.00	0.30	0.70	0.00
	2	0.25	0.25	0.25	0.25
	3	0.57	0.43	0.00	0.00
	4	0.91	0.00	0.09	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	313.000	194.000
	2	208.000	0.000	263.000	0.000
	3	751.000	0.000	0.000	76.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.62	0.38
	2	0.44	0.00	0.56	0.00
	3	0.91	0.00	0.00	0.09
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	0.60	0.13	1.49	A	676.00	676.00	87.35	0.13	1.46	87.41	0.13	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	0.52	0.07	1.09	A	956.62	956.62	64.33	0.07	1.07	64.35	0.07	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip	0.55	0.19	1.22	B	396.00	396.00	70.74	0.18	1.18	70.80	0.18	0.567	1261.787
Western Dumb-bell	A5153 Bridge	0.24	0.04	0.32	A	505.85	505.85	18.92	0.04	0.32	18.92	0.04	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip	0.49	0.12	0.96	A	471.00	471.00	56.47	0.12	0.94	56.50	0.12	0.558	1242.622
Western Dumb-bell	A5153 West	0.68	0.16	2.15	A	827.00	827.00	125.28	0.15	2.09	125.39	0.15	0.599	1448.264
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	A5153 East	676.00	169.00	670.17	897.99	438.81	0.00	1129.94	901.70	0.598	0.00	1.46
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	606.46	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	949.73	237.43	945.48	502.52	0.00	0.00	1834.73	1594.44	0.518	0.00	1.06
Eastern Dumb-bell	A55 S/B Off-slip	396.00	99.00	391.32	0.00	945.48	0.00	725.85	221.39	0.546	0.00	1.17
Western Dumb-bell	A5153 Bridge	502.52	125.63	501.26	949.73	0.00	0.00	2098.92	1892.07	0.239	0.00	0.31
Western Dumb-bell	A55 N/B Off-slip	471.00	117.75	467.23	0.00	501.26	0.00	962.80	79.26	0.489	0.00	0.94
Western Dumb-bell	A5153 West	827.00	206.75	818.63	570.35	398.14	0.00	1209.79	936.16	0.684	0.00	2.09
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	267.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	A5153 East	676.00	169.00	675.90	909.71	444.87	0.00	1126.32	901.70	0.600	1.46	1.48

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	613.85	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	958.82	239.71	958.73	506.92	0.00	0.00	1834.73	1594.44	0.523	1.06	1.09
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.85	0.00	958.73	0.00	718.34	221.39	0.551	1.17	1.21
Western Dumb-bell	**A5153 Bridge**	506.92	126.73	506.90	958.82	0.00	0.00	2098.92	1892.07	0.242	0.31	0.32
Western Dumb-bell	**A55 N/B Off-slip**	471.00	117.75	470.95	0.00	506.90	0.00	959.65	79.26	0.491	0.94	0.95
Western Dumb-bell	**A5153 West**	827.00	206.75	826.83	575.91	401.94	0.00	1207.51	936.16	0.685	2.09	2.14
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.95	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	676.00	169.00	675.97	909.93	444.97	0.00	1126.27	901.70	0.600	1.48	1.49
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	613.96	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	958.95	239.74	958.93	506.98	0.00	0.00	1834.73	1594.44	0.523	1.09	1.09
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.97	0.00	958.93	0.00	718.23	221.39	0.551	1.21	1.22
Western Dumb-bell	**A5153 Bridge**	506.98	126.74	506.98	958.95	0.00	0.00	2098.92	1892.07	0.242	0.32	0.32
Western Dumb-bell	**A55 N/B Off-slip**	471.00	117.75	470.99	0.00	506.98	0.00	959.61	79.26	0.491	0.95	0.96
Western Dumb-bell	**A5153 West**	827.00	206.75	826.95	575.98	401.98	0.00	1207.49	936.16	0.685	2.14	2.15
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	676.00	169.00	675.99	909.97	444.99	0.00	1126.26	901.70	0.600	1.49	1.49
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	613.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	958.97	239.74	958.97	506.99	0.00	0.00	1834.73	1594.44	0.523	1.09	1.09
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.98	0.00	958.97	0.00	718.21	221.39	0.551	1.22	1.22
Western Dumb-bell	**A5153 Bridge**	506.99	126.75	506.99	958.97	0.00	0.00	2098.92	1892.07	0.242	0.32	0.32
Western Dumb-bell	**A55 N/B Off-slip**	471.00	117.75	470.99	0.00	506.99	0.00	959.61	79.26	0.491	0.96	0.96
Western Dumb-bell	**A5153 West**	827.00	206.75	826.97	575.99	401.99	0.00	1207.48	936.16	0.685	2.15	2.15
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)	(Exit-only)

										only)		

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	20.60	1.37	0.129	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	15.43	1.03	0.067	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	16.38	1.09	0.177	B	B
Western Dumb-bell	**A5153 Bridge**	4.63	0.31	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	13.47	0.90	0.120	A	A
Western Dumb-bell	**A5153 West**	29.06	1.94	0.150	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	22.10	1.47	0.133	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	16.20	1.08	0.068	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	17.92	1.19	0.186	B	B
Western Dumb-bell	**A5153 Bridge**	4.75	0.32	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	14.26	0.95	0.123	A	A
Western Dumb-bell	**A5153 West**	31.79	2.12	0.157	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	22.29	1.49	0.133	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	16.33	1.09	0.069	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	18.18	1.21	0.186	B	B
Western Dumb-bell	**A5153 Bridge**	4.77	0.32	0.038	A	A

Western Dumb-bell	**A55 N/B Off-slip**	14.35	0.96	0.123	A	A
Western Dumb-bell	**A5153 West**	32.14	2.14	0.158	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	22.36	1.49	0.133	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	16.37	1.09	0.069	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	18.27	1.22	0.186	B	B
Western Dumb-bell	**A5153 Bridge**	4.77	0.32	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	14.39	0.96	0.123	A	A
Western Dumb-bell	**A5153 West**	32.28	2.15	0.158	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Eastern Dumb-bell	A5153 East	676.00	1129.94	0.598	0.00	0.00	1.46	20.60	(0.02)	0.129
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Eastern Dumb-bell	A5153 Bridge	949.73	1834.73	0.518	0.00	0.00	1.06	15.43	(0.02)	0.067
1	Eastern Dumb-bell	A55 S/B Off-slip	396.00	725.85	0.546	0.00	0.00	1.17	16.38	(0.02)	0.177
1	Western Dumb-bell	A5153 Bridge	502.52	2098.92	0.239	0.00	0.00	0.31	4.63	(0.02)	0.038
1	Western Dumb-bell	A55 N/B Off-slip	471.00	962.80	0.489	0.00	0.00	0.94	13.47	(0.02)	0.120
1	Western Dumb-bell	A5153 West	827.00	1209.79	0.684	0.00	0.00	2.09	29.06	(0.02)	0.150
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Eastern Dumb-bell	A5153 East	676.00	1126.32	0.600	0.00	1.46	1.48	22.10	(0.02)	0.133
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Eastern Dumb-bell	A5153 Bridge	958.82	1834.73	0.523	0.00	1.06	1.09	16.20	(0.02)	0.068
2	Eastern Dumb-bell	A55 S/B Off-slip	396.00	718.34	0.551	0.00	1.17	1.21	17.92	(0.02)	0.186
2	Western Dumb-bell	A5153 Bridge	506.92	2098.92	0.242	0.00	0.31	0.32	4.75	(0.02)	0.038
2	Western Dumb-bell	A55 N/B Off-slip	471.00	959.65	0.491	0.00	0.94	0.95	14.26	(0.02)	0.123
2	Western Dumb-bell	A5153 West	827.00	1207.51	0.685	0.00	2.09	2.14	31.79	(0.02)	0.157
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	Eastern Dumb-	A5153	676.00	1126.27	0.600	0.00	1.48	1.49	22.29	(0.02)	0.133

	bell	East									
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	Eastern Dumb-bell	A5153 Bridge	958.95	1834.73	0.523	0.00	1.09	1.09	16.33	(0.02)	0.069
3	Eastern Dumb-bell	A55 S/B Off-slip	396.00	718.23	0.551	0.00	1.21	1.22	18.18	(0.02)	0.186
3	Western Dumb-bell	A5153 Bridge	506.98	2098.92	0.242	0.00	0.32	0.32	4.77	(0.02)	0.038
3	Western Dumb-bell	A55 N/B Off-slip	471.00	959.61	0.491	0.00	0.95	0.96	14.35	(0.02)	0.123
3	Western Dumb-bell	A5153 West	827.00	1207.49	0.685	0.00	2.14	2.15	32.14	(0.02)	0.158
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 East	676.00	1126.26	0.600	0.00	1.49	1.49	22.36	(0.02)	0.133
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 Bridge	958.97	1834.73	0.523	0.00	1.09	1.09	16.37	(0.02)	0.069
4	Eastern Dumb-bell	A55 S/B Off-slip	396.00	718.21	0.551	0.00	1.22	1.22	18.27	(0.02)	0.186
4	Western Dumb-bell	A5153 Bridge	506.99	2098.92	0.242	0.00	0.32	0.32	4.77	(0.02)	0.038
4	Western Dumb-bell	A55 N/B Off-slip	471.00	959.61	0.491	0.00	0.96	0.96	14.39	(0.02)	0.123
4	Western Dumb-bell	A5153 West	827.00	1207.48	0.685	0.00	2.15	2.15	32.28	(0.02)	0.158
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D9 - Base+Com 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, Sat	Base+Com 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	

4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	A5153 West		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	A55 N/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	A5153 East	FLAT	Yes	552.00	100.000	1.00
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	Linked Arm			N/A	0.00
Eastern Dumb-bell	A55 S/B Off-slip	FLAT	Yes	301.00	100.000	1.00
Western Dumb-bell	A5153 Bridge	Linked Arm			N/A	0.00
Western Dumb-bell	A55 N/B Off-slip	FLAT	Yes	324.00	100.000	1.00
Western Dumb-bell	A5153 West	FLAT	Yes	175.00	100.000	1.00

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	552.00	552.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B Off-slip**	324.00	324.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 West**	175.00	175.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 East**	552.00	552.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B Off-slip**	324.00	324.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 West**	175.00	175.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A5153 East**	552.00	552.00	N/A	N/A
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A
3	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A

3	Western Dumb-bell	A55 N/B Off-slip	324.00	324.00	N/A	N/A
3	Western Dumb-bell	A5153 West	175.00	175.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	552.00	552.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	324.00	324.00	N/A	N/A
4	Western Dumb-bell	A5153 West	175.00	175.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	197.000	355.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	396.000	28.000	0.000	0.000
	4	294.000	0.000	7.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.36	0.64	0.00
	2	0.25	0.25	0.25	0.25
	3	0.93	0.07	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	175.000	188.000
	2	256.000	0.000	68.000	0.000
	3	168.000	0.000	0.000	7.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.48	0.52
	2	0.79	0.00	0.21	0.00
	3	0.96	0.00	0.00	0.04
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000

	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.40	0.07	0.67	A	552.00	552.00	39.96	0.07	0.67	39.97	0.07	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.23	0.04	0.30	A	423.48	423.48	17.88	0.04	0.30	17.88	0.04	0.665	1834.727

Eastern Dumb-bell	**A55 S/B Off-slip**	0.29	0.08	0.42	A	301.00	301.00	24.74	0.08	0.41	24.75	0.08	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.17	0.03	0.21	A	361.56	361.56	12.42	0.03	0.21	12.42	0.03	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.31	0.08	0.45	A	324.00	324.00	26.78	0.08	0.45	26.78	0.08	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.15	0.06	0.17	A	175.00	175.00	10.33	0.06	0.17	10.33	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	552.00	138.00	549.33	685.33	34.75	0.00	1370.77	1262.88	0.403	0.00	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	223.83	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	421.92	105.48	420.73	360.24	0.00	0.00	1834.73	1629.28	0.230	0.00	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	299.35	0.00	420.73	0.00	1023.30	221.45	0.294	0.00	0.41
Western Dumb-bell	**A5153 Bridge**	360.24	90.06	359.41	421.92	0.00	0.00	2098.92	1872.82	0.172	0.00	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	322.21	0.00	359.41	0.00	1041.99	80.03	0.311	0.00	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	174.31	240.90	440.73	0.00	1184.28	766.58	0.148	0.00	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	193.12	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	552.00	138.00	551.99	689.97	35.00	0.00	1370.62	1262.88	0.403	0.67	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	224.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	423.99	106.00	423.98	361.99	0.00	0.00	1834.73	1629.28	0.231	0.30	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	300.99	0.00	423.98	0.00	1021.46	221.45	0.295	0.41	0.42
Western Dumb-bell	**A5153 Bridge**	361.99	90.50	361.99	423.99	0.00	0.00	2098.92	1872.82	0.172	0.21	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	323.99	0.00	361.99	0.00	1040.55	80.03	0.311	0.45	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	175.00	242.51	443.47	0.00	1182.64	766.58	0.148	0.17	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	552.00	138.00	552.00	689.99	35.00	0.00	1370.62	1262.88	0.403	0.67	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	225.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	424.00	106.00	424.00	362.00	0.00	0.00	1834.73	1629.28	0.231	0.30	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	424.00	0.00	1021.45	221.45	0.295	0.42	0.42
Western Dumb-bell	**A5153 Bridge**	362.00	90.50	362.00	424.00	0.00	0.00	2098.92	1872.82	0.172	0.21	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	324.00	0.00	362.00	0.00	1040.54	80.03	0.311	0.45	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	175.00	242.52	443.48	0.00	1182.63	766.58	0.148	0.17	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	552.00	138.00	552.00	690.00	35.00	0.00	1370.62	1262.88	0.403	0.67	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	225.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	424.00	106.00	424.00	362.00	0.00	0.00	1834.73	1629.28	0.231	0.30	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	424.00	0.00	1021.45	221.45	0.295	0.42	0.42
Western Dumb-bell	**A5153 Bridge**	362.00	90.50	362.00	424.00	0.00	0.00	2098.92	1872.82	0.172	0.21	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	324.00	0.00	362.00	0.00	1040.54	80.03	0.311	0.45	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	175.00	242.52	443.48	0.00	1182.63	766.58	0.148	0.17	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	9.73	0.65	0.073	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.39	0.29	0.042	A	A

Eastern Dumb-bell	**A55 S/B Off-slip**	6.02	0.40	0.083	A	A
Western Dumb-bell	**A5153 Bridge**	3.06	0.20	0.034	A	A
Western Dumb-bell	**A55 N/B Off-slip**	6.51	0.43	0.083	A	A
Western Dumb-bell	**A5153 West**	2.54	0.17	0.059	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.06	0.67	0.073	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.49	0.30	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.23	0.42	0.083	A	A
Western Dumb-bell	**A5153 Bridge**	3.11	0.21	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	6.74	0.45	0.084	A	A
Western Dumb-bell	**A5153 West**	2.59	0.17	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.08	0.67	0.073	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.50	0.30	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.24	0.42	0.083	A	A
Western Dumb-bell	**A5153 Bridge**	3.12	0.21	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	6.76	0.45	0.084	A	A
Western Dumb-bell	**A5153 West**	2.60	0.17	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.09	0.67	0.073	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.50	0.30	0.043	A	A

Eastern Dumb-bell	**A55 S/B Off-slip**	6.25	0.42	0.083	A	A
Western Dumb-bell	**A5153 Bridge**	3.12	0.21	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	6.77	0.45	0.084	A	A
Western Dumb-bell	**A5153 West**	2.60	0.17	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	552.00	1370.77	0.403	0.00	0.00	0.67	9.73	(0.02)	0.073

1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	421.92	1834.73	0.230	0.00	0.00	0.30	4.39	(0.02)	0.042
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	1023.30	0.294	0.00	0.00	0.41	6.02	(0.02)	0.083
1	**Western Dumb-bell**	**A5153 Bridge**	360.24	2098.92	0.172	0.00	0.00	0.21	3.06	(0.02)	0.034
1	**Western Dumb-bell**	**A55 N/B Off-slip**	324.00	1041.99	0.311	0.00	0.00	0.45	6.51	(0.02)	0.083
1	**Western Dumb-bell**	**A5153 West**	175.00	1184.28	0.148	0.00	0.00	0.17	2.54	(0.02)	0.059
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	552.00	1370.62	0.403	0.00	0.67	0.67	10.06	(0.02)	0.073
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	423.99	1834.73	0.231	0.00	0.30	0.30	4.49	(0.02)	0.043
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	1021.46	0.295	0.00	0.41	0.42	6.23	(0.02)	0.083
2	**Western Dumb-bell**	**A5153 Bridge**	361.99	2098.92	0.172	0.00	0.21	0.21	3.11	(0.02)	0.035
2	**Western Dumb-bell**	**A55 N/B Off-slip**	324.00	1040.55	0.311	0.00	0.45	0.45	6.74	(0.02)	0.084
2	**Western Dumb-bell**	**A5153 West**	175.00	1182.64	0.148	0.00	0.17	0.17	2.59	(0.02)	0.060
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	552.00	1370.62	0.403	0.00	0.67	0.67	10.08	(0.02)	0.073
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	424.00	1834.73	0.231	0.00	0.30	0.30	4.50	(0.02)	0.043
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	1021.45	0.295	0.00	0.42	0.42	6.24	(0.02)	0.083
3	**Western Dumb-bell**	**A5153 Bridge**	362.00	2098.92	0.172	0.00	0.21	0.21	3.12	(0.02)	0.035
3	**Western**	**A55 N/B**	324.00	1040.54	0.311	0.00	0.45	0.45	6.76	(0.02)	0.084

	Dumb-bell	Off-slip									
3	Western Dumb-bell	A5153 West	175.00	1182.63	0.148	0.00	0.17	0.17	2.60	(0.02)	0.060
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 East	552.00	1370.62	0.403	0.00	0.67	0.67	10.09	(0.02)	0.073
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 Bridge	424.00	1834.73	0.231	0.00	0.30	0.30	4.50	(0.02)	0.043
4	Eastern Dumb-bell	A55 S/B Off-slip	301.00	1021.45	0.295	0.00	0.42	0.42	6.25	(0.02)	0.083
4	Western Dumb-bell	A5153 Bridge	362.00	2098.92	0.172	0.00	0.21	0.21	3.12	(0.02)	0.035
4	Western Dumb-bell	A55 N/B Off-slip	324.00	1040.54	0.311	0.00	0.45	0.45	6.77	(0.02)	0.084
4	Western Dumb-bell	A5153 West	175.00	1182.63	0.148	0.00	0.17	0.17	2.60	(0.02)	0.060
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D10 - Base+Com+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

Base+Com+Dev 2032, AM	Base+Com+Dev 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00

Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727

Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	538.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	259.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	624.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	421.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	624.00	624.00	N/A	N/A
1	Western Dumb-bell	A5153 West	421.00	421.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	624.00	624.00	N/A	N/A
2	Western Dumb-bell	A5153 West	421.00	421.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	624.00	624.00	N/A	N/A
3	Western Dumb-bell	A5153 West	421.00	421.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	624.00	624.00	N/A	N/A

4	**Western Dumb-bell**	**A5153 West**	421.00	421.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	117.000	421.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	336.000	236.000	0.000	0.000
	4	210.000	0.000	49.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.22	0.78	0.00
	2	0.25	0.25	0.25	0.25
	3	0.59	0.41	0.00	0.00
	4	0.81	0.00	0.19	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	344.000	126.000
	2	166.000	0.000	458.000	0.000
	3	406.000	0.000	0.000	15.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.73	0.27
	2	0.27	0.00	0.73	0.00
	3	0.96	0.00	0.00	0.04
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000

	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.44	0.09	0.78	A	538.00	538.00	46.47	0.09	0.77	46.49	0.09	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.31	0.05	0.45	A	571.06	571.06	26.88	0.05	0.45	26.88	0.05	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.28	0.09	0.38	A	259.00	259.00	22.58	0.09	0.38	22.58	0.09	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.22	0.04	0.29	A	469.31	469.31	17.17	0.04	0.29	17.17	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.64	0.17	1.74	B	624.00	624.00	101.16	0.16	1.69	101.25	0.16	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.33	0.07	0.49	A	421.00	421.00	29.29	0.07	0.49	29.30	0.07	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	534.89	541.56	282.46	0.00	1223.13	903.69	0.440	0.00	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	350.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	568.31	142.08	566.53	467.28	0.00	0.00	1834.73	1615.14	0.310	0.00	0.45
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	257.49	0.00	566.53	0.00	940.66	221.42	0.275	0.00	0.38
Western Dumb-bell	**A5153 Bridge**	467.28	116.82	466.14	568.31	0.00	0.00	2098.92	1931.54	0.223	0.00	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	617.24	0.00	466.14	0.00	982.41	77.67	0.635	0.00	1.69
Western Dumb-bell	**A5153 West**	421.00	105.25	419.04	794.21	289.17	0.00	1275.06	1079.21	0.330	0.00	0.49
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	139.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	537.98	545.95	284.97	0.00	1221.63	903.69	0.440	0.78	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	352.97	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	571.96	142.99	571.94	469.98	0.00	0.00	1834.73	1615.14	0.312	0.45	0.45
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	258.99	0.00	571.94	0.00	937.59	221.42	0.276	0.38	0.38
Western Dumb-bell	**A5153 Bridge**	469.98	117.50	469.97	571.96	0.00	0.00	2098.92	1931.54	0.224	0.29	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	623.87	0.00	469.97	0.00	980.27	77.67	0.637	1.69	1.72
Western Dumb-bell	**A5153 West**	421.00	105.25	420.99	801.88	291.96	0.00	1273.39	1079.21	0.331	0.49	0.49
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	537.99	545.99	284.99	0.00	1221.62	903.69	0.440	0.78	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	352.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	571.99	143.00	571.98	469.99	0.00	0.00	1834.73	1615.14	0.312	0.45	0.45
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	571.98	0.00	937.56	221.42	0.276	0.38	0.38

Western Dumb-bell	**A5153 Bridge**	469.99	117.50	469.99	571.99	0.00	0.00	2098.92	1931.54	0.224	0.29	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	623.96	0.00	469.99	0.00	980.26	77.67	0.637	1.72	1.73
Western Dumb-bell	**A5153 West**	421.00	105.25	421.00	801.97	291.99	0.00	1273.37	1079.21	0.331	0.49	0.49
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	141.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	538.00	545.99	285.00	0.00	1221.61	903.69	0.440	0.78	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	353.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	571.99	143.00	571.99	470.00	0.00	0.00	1834.73	1615.14	0.312	0.45	0.45
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	571.99	0.00	937.56	221.42	0.276	0.38	0.38
Western Dumb-bell	**A5153 Bridge**	470.00	117.50	470.00	571.99	0.00	0.00	2098.92	1931.54	0.224	0.29	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	623.98	0.00	470.00	0.00	980.26	77.67	0.637	1.73	1.74
Western Dumb-bell	**A5153 West**	421.00	105.25	421.00	801.98	291.99	0.00	1273.37	1079.21	0.331	0.49	0.49
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	141.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.24	0.75	0.087	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.57	0.44	0.047	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.48	0.37	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.22	0.28	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	23.54	1.57	0.161	A	A
Western Dumb-bell	**A5153 West**	7.15	0.48	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay	Queueing Rate Of Delay (PCU-	Average Delay Per Arriving	Unsignalised Level Of	Signalised Level Of

		(PCU-min)	min/min)	Vehicle (min)	Service	Service
Eastern Dumb-bell	**A5153 East**	11.71	0.78	0.088	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.75	0.45	0.048	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.68	0.38	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.31	0.29	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	25.66	1.71	0.168	B	B
Western Dumb-bell	**A5153 West**	7.37	0.49	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.75	0.78	0.088	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.78	0.45	0.048	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.70	0.38	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.32	0.29	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	25.93	1.73	0.168	B	B
Western Dumb-bell	**A5153 West**	7.39	0.49	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.77	0.78	0.088	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.78	0.45	0.048	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.71	0.38	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.32	0.29	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	26.03	1.74	0.168	B	B
Western Dumb-bell	**A5153 West**	7.39	0.49	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Eastern Dumb-bell	A5153 East	538.00	1223.13	0.440	0.00	0.00	0.78	11.24	(0.02)	0.087
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Eastern Dumb-bell	A5153 Bridge	568.31	1834.73	0.310	0.00	0.00	0.45	6.57	(0.02)	0.047
1	Eastern Dumb-bell	A55 S/B Off-slip	259.00	940.66	0.275	0.00	0.00	0.38	5.48	(0.02)	0.088
1	Western Dumb-bell	A5153 Bridge	467.28	2098.92	0.223	0.00	0.00	0.29	4.22	(0.02)	0.037
1	Western Dumb-bell	A55 N/B Off-slip	624.00	982.41	0.635	0.00	0.00	1.69	23.54	(0.02)	0.161
1	Western	A5153	421.00	1275.06	0.330	0.00	0.00	0.49	7.15	(0.02)	0.070

	Dumb-bell	West									
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Eastern Dumb-bell	A5153 East	538.00	1221.63	0.440	0.00	0.78	0.78	11.71	(0.02)	0.088
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Eastern Dumb-bell	A5153 Bridge	571.96	1834.73	0.312	0.00	0.45	0.45	6.75	(0.02)	0.048
2	Eastern Dumb-bell	A55 S/B Off-slip	259.00	937.59	0.276	0.00	0.38	0.38	5.68	(0.02)	0.088
2	Western Dumb-bell	A5153 Bridge	469.98	2098.92	0.224	0.00	0.29	0.29	4.31	(0.02)	0.037
2	Western Dumb-bell	A55 N/B Off-slip	624.00	980.27	0.637	0.00	1.69	1.72	25.66	(0.02)	0.168
2	Western Dumb-bell	A5153 West	421.00	1273.39	0.331	0.00	0.49	0.49	7.37	(0.02)	0.070
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	Eastern Dumb-bell	A5153 East	538.00	1221.62	0.440	0.00	0.78	0.78	11.75	(0.02)	0.088
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	Eastern Dumb-bell	A5153 Bridge	571.99	1834.73	0.312	0.00	0.45	0.45	6.78	(0.02)	0.048
3	Eastern Dumb-bell	A55 S/B Off-slip	259.00	937.56	0.276	0.00	0.38	0.38	5.70	(0.02)	0.088
3	Western Dumb-bell	A5153 Bridge	469.99	2098.92	0.224	0.00	0.29	0.29	4.32	(0.02)	0.037
3	Western Dumb-bell	A55 N/B Off-slip	624.00	980.26	0.637	0.00	1.72	1.73	25.93	(0.02)	0.168
3	Western Dumb-bell	A5153 West	421.00	1273.37	0.331	0.00	0.49	0.49	7.39	(0.02)	0.070
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 East	538.00	1221.61	0.440	0.00	0.78	0.78	11.77	(0.02)	0.088
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 Bridge	571.99	1834.73	0.312	0.00	0.45	0.45	6.78	(0.02)	0.048

4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	937.56	0.276	0.00	0.38	0.38	5.71	(0.02)	0.088
4	**Western Dumb-bell**	**A5153 Bridge**	470.00	2098.92	0.224	0.00	0.29	0.29	4.32	(0.02)	0.037
4	**Western Dumb-bell**	**A55 N/B Off-slip**	624.00	980.26	0.637	0.00	1.73	1.74	26.03	(0.02)	0.168
4	**Western Dumb-bell**	**A5153 West**	421.00	1273.37	0.331	0.00	0.49	0.49	7.39	(0.02)	0.070
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D11 - Base+Com+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, PM	Base+Com+Dev 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	

Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	711.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	396.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	559.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	907.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	711.00	711.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	396.00	N/A	N/A

1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	559.00	559.00	N/A	N/A
1	Western Dumb-bell	A5153 West	907.00	907.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	711.00	711.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	559.00	559.00	N/A	N/A
2	Western Dumb-bell	A5153 West	907.00	907.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	711.00	711.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	559.00	559.00	N/A	N/A
3	Western Dumb-bell	A5153 West	907.00	907.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	711.00	711.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	559.00	559.00	N/A	N/A
4	Western Dumb-bell	A5153 West	907.00	907.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

	To			
From	1	2	3	4

	1	0.000	204.000	507.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	571.000	468.000	0.000	0.000
	4	361.000	0.000	35.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.29	0.71	0.00
	2	0.25	0.25	0.25	0.25
	3	0.55	0.45	0.00	0.00
	4	0.91	0.00	0.09	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	348.000	194.000
	2	208.000	0.000	351.000	0.000
	3	831.000	0.000	0.000	76.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.64	0.36
	2	0.37	0.00	0.63	0.00
	3	0.92	0.00	0.00	0.08
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000

	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.65	0.16	1.85	A	711.00	711.00	107.67	0.15	1.79	107.76	0.15	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.57	0.08	1.30	A	1035.73	1035.73	76.33	0.07	1.27	76.36	0.07	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.59	0.22	1.42	B	396.00	396.00	81.45	0.21	1.36	81.54	0.21	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.26	0.04	0.35	A	540.55	540.55	20.66	0.04	0.34	20.67	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.59	0.16	1.46	A	559.00	559.00	84.98	0.15	1.42	85.05	0.15	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.75	0.20	2.98	B	907.00	907.00	170.94	0.19	2.85	171.16	0.19	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	711.00	177.75	703.83	917.47	494.62	0.00	1096.68	879.92	0.648	0.00	1.79
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	662.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1026.46	256.61	1021.44	536.42	0.00	0.00	1834.73	1594.00	0.559	0.00	1.26
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	390.65	0.00	1021.44	0.00	682.80	221.39	0.580	0.00	1.34
Western Dumb-bell	**A5153 Bridge**	536.42	134.10	535.05	1026.46	0.00	0.00	2098.92	1899.04	0.256	0.00	0.34
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	553.33	0.00	535.05	0.00	943.94	78.98	0.592	0.00	1.42

Western Dumb-bell	**A5153 West**	907.00	226.75	895.61	690.98	397.40	0.00	1210.23	967.97	0.749	0.00	2.85
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	266.56	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	711.00	177.75	710.83	931.50	502.75	0.00	1091.83	879.92	0.651	1.79	1.83
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	671.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1038.63	259.66	1038.49	541.86	0.00	0.00	1834.73	1594.00	0.566	1.26	1.29
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.76	0.00	1038.49	0.00	673.13	221.39	0.588	1.34	1.40
Western Dumb-bell	**A5153 Bridge**	541.86	135.46	541.84	1038.63	0.00	0.00	2098.92	1899.04	0.258	0.34	0.35
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	558.89	0.00	541.84	0.00	940.15	78.98	0.595	1.42	1.45
Western Dumb-bell	**A5153 West**	907.00	226.75	906.65	698.82	401.90	0.00	1207.54	967.97	0.751	2.85	2.93
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.91	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	711.00	177.75	710.95	931.88	502.93	0.00	1091.72	879.92	0.651	1.83	1.85
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	671.92	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1038.88	259.72	1038.86	541.96	0.00	0.00	1834.73	1594.00	0.566	1.29	1.30
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.95	0.00	1038.86	0.00	672.92	221.39	0.588	1.40	1.41
Western Dumb-bell	**A5153 Bridge**	541.96	135.49	541.96	1038.88	0.00	0.00	2098.92	1899.04	0.258	0.35	0.35
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	558.97	0.00	541.96	0.00	940.08	78.98	0.595	1.45	1.45
Western Dumb-bell	**A5153 West**	907.00	226.75	906.89	698.95	401.97	0.00	1207.49	967.97	0.751	2.93	2.96
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

Eastern Dumb-bell	**A5153 East**	711.00	177.75	710.98	931.94	502.97	0.00	1091.70	879.92	0.651	1.85	1.85
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	671.96	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1038.94	259.74	1038.93	541.98	0.00	0.00	1834.73	1594.00	0.566	1.30	1.30
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.98	0.00	1038.93	0.00	672.88	221.39	0.589	1.41	1.42
Western Dumb-bell	**A5153 Bridge**	541.98	135.50	541.98	1038.94	0.00	0.00	2098.92	1899.04	0.258	0.35	0.35
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	558.99	0.00	541.98	0.00	940.07	78.98	0.595	1.45	1.46
Western Dumb-bell	**A5153 West**	907.00	226.75	906.94	698.98	401.99	0.00	1207.48	967.97	0.751	2.96	2.98
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	25.01	1.67	0.150	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	18.14	1.21	0.073	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	18.53	1.24	0.202	B	B
Western Dumb-bell	**A5153 Bridge**	5.05	0.34	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	19.89	1.33	0.152	A	A
Western Dumb-bell	**A5153 West**	38.59	2.57	0.185	B	B
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	27.29	1.82	0.157	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	19.24	1.28	0.075	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	20.65	1.38	0.216	B	B
Western Dumb-bell	**A5153 Bridge**	5.19	0.35	0.039	A	A
Western Dumb-bell	**A55 N/B Off-slip**	21.52	1.43	0.157	A	A
Western Dumb-bell	**A5153 West**	43.52	2.90	0.199	B	B
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	27.63	1.84	0.157	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	19.45	1.30	0.075	A	A
Eastern Dumb-bell	A55 S/B Off-slip	21.07	1.40	0.216	B	B
Western Dumb-bell	A5153 Bridge	5.21	0.35	0.039	A	A
Western Dumb-bell	A55 N/B Off-slip	21.74	1.45	0.157	A	A
Western Dumb-bell	A5153 West	44.27	2.95	0.199	B	B
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	27.75	1.85	0.158	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	19.50	1.30	0.075	A	A
Eastern Dumb-bell	A55 S/B Off-slip	21.20	1.41	0.217	B	B
Western Dumb-bell	A5153 Bridge	5.21	0.35	0.039	A	A
Western Dumb-bell	A55 N/B Off-slip	21.83	1.46	0.157	A	A
Western Dumb-bell	A5153 West	44.57	2.97	0.199	B	B
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-	A55 S/B	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

bell	**Off-slip**									
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	711.00	1096.68	0.648	0.00	0.00	1.79	25.01	(0.02)	0.150
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	1026.46	1834.73	0.559	0.00	0.00	1.26	18.14	(0.02)	0.073
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	682.80	0.580	0.00	0.00	1.34	18.53	(0.02)	0.202
1	**Western Dumb-bell**	**A5153 Bridge**	536.42	2098.92	0.256	0.00	0.00	0.34	5.05	(0.02)	0.038
1	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	943.94	0.592	0.00	0.00	1.42	19.89	(0.02)	0.152
1	**Western Dumb-bell**	**A5153 West**	907.00	1210.23	0.749	0.00	0.00	2.85	38.59	(0.02)	0.185
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	711.00	1091.83	0.651	0.00	1.79	1.83	27.29	(0.02)	0.157
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	1038.63	1834.73	0.566	0.00	1.26	1.29	19.24	(0.02)	0.075
2	**Eastern Dumb-**	**A55 S/B**	396.00	673.13	0.588	0.00	1.34	1.40	20.65	(0.02)	0.216

	bell	**Off-slip**									
2	**Western Dumb-bell**	**A5153 Bridge**	541.86	2098.92	0.258	0.00	0.34	0.35	5.19	(0.02)	0.039
2	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	940.15	0.595	0.00	1.42	1.45	21.52	(0.02)	0.157
2	**Western Dumb-bell**	**A5153 West**	907.00	1207.54	0.751	0.00	2.85	2.93	43.52	(0.02)	0.199
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	711.00	1091.72	0.651	0.00	1.83	1.85	27.63	(0.02)	0.157
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	1038.88	1834.73	0.566	0.00	1.29	1.30	19.45	(0.02)	0.075
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	672.92	0.588	0.00	1.40	1.41	21.07	(0.02)	0.216
3	**Western Dumb-bell**	**A5153 Bridge**	541.96	2098.92	0.258	0.00	0.35	0.35	5.21	(0.02)	0.039
3	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	940.08	0.595	0.00	1.45	1.45	21.74	(0.02)	0.157
3	**Western Dumb-bell**	**A5153 West**	907.00	1207.49	0.751	0.00	2.93	2.96	44.27	(0.02)	0.199
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	711.00	1091.70	0.651	0.00	1.85	1.85	27.75	(0.02)	0.158
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	1038.94	1834.73	0.566	0.00	1.30	1.30	19.50	(0.02)	0.075
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	672.88	0.589	0.00	1.41	1.42	21.20	(0.02)	0.217
4	**Western Dumb-bell**	**A5153 Bridge**	541.98	2098.92	0.258	0.00	0.35	0.35	5.21	(0.02)	0.039
4	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	940.07	0.595	0.00	1.45	1.46	21.83	(0.02)	0.157
4	**Western Dumb-bell**	**A5153 West**	907.00	1207.48	0.751	0.00	2.96	2.98	44.57	(0.02)	0.199
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D12 - Base+Com+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, Sat	Base+Com+Dev 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type

Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	579.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	301.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	391.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	251.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	579.00	579.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	391.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 West**	251.00	251.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 East**	579.00	579.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A

2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
2	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
3	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
4	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	197.000	382.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	419.000	81.000	0.000	0.000
	4	294.000	0.000	7.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

	To

		1	2	3	4
From	1	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.84	0.16	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	202.000	188.000
	2	256.000	0.000	135.000	0.000
	3	244.000	0.000	0.000	7.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.52	0.48
	2	0.65	0.00	0.35	0.00
	3	0.97	0.00	0.00	0.03
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	0.43	0.08	0.76	A	579.00	579.00	45.08	0.08	0.75	45.09	0.08	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	0.27	0.04	0.37	A	499.34	499.34	22.26	0.04	0.37	22.26	0.04	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip	0.31	0.09	0.44	A	301.00	301.00	26.28	0.09	0.44	26.29	0.09	0.567	1261.787
Western Dumb-bell	A5153 Bridge	0.19	0.04	0.23	A	388.49	388.49	13.55	0.03	0.23	13.55	0.03	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip	0.38	0.09	0.61	A	391.00	391.00	36.39	0.09	0.61	36.40	0.09	0.558	1242.622
Western Dumb-bell	A5153 West	0.21	0.06	0.27	A	251.00	251.00	16.01	0.06	0.27	16.01	0.06	0.599	1448.264
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	A5153 East	579.00	144.75	575.98	707.84	87.29	0.00	1339.45	1167.94	0.432	0.00	0.75
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	276.31	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	497.37	124.34	495.88	386.97	0.00	0.00	1834.73	1620.66	0.271	0.00	0.37
Eastern Dumb-bell	A55 S/B Off-slip	301.00	75.25	299.24	0.00	495.88	0.00	980.70	221.43	0.307	0.00	0.44
Western Dumb-bell	A5153 Bridge	386.97	96.74	386.07	497.37	0.00	0.00	2098.92	1882.57	0.184	0.00	0.23
Western Dumb-bell	A55 N/B Off-slip	391.00	97.75	388.57	0.00	386.07	0.00	1027.11	79.64	0.381	0.00	0.61
Western Dumb-bell	A5153 West	251.00	62.75	249.93	334.12	440.51	0.00	1184.41	813.34	0.212	0.00	0.27
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	193.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	A5153 East	579.00	144.75	578.98	712.96	88.00	0.00	1339.03	1167.94	0.432	0.75	0.76

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	277.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	499.98	125.00	499.97	388.99	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	300.99	0.00	499.97	0.00	978.38	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	388.99	97.25	388.98	499.98	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	390.98	0.00	388.98	0.00	1025.48	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.47	443.50	0.00	1182.62	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	712.99	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	499.99	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	499.99	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.51	0.00	1182.61	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	713.00	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	500.00	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	500.00	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.52	0.00	1182.61	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)	(Exit-only)

										only)		

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.95	0.73	0.078	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.46	0.36	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.38	0.43	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	3.33	0.22	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.81	0.59	0.094	A	A
Western Dumb-bell	**A5153 West**	3.92	0.26	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.35	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.59	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.62	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.40	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.17	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.02	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.38	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.61	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.64	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.41	0.23	0.035	A	A

Western Dumb-bell	**A55 N/B Off-slip**	9.20	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.03	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.40	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.61	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.65	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.41	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.22	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.03	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Eastern Dumb-bell	A5153 East	579.00	1339.45	0.432	0.00	0.00	0.75	10.95	(0.02)	0.078
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Eastern Dumb-bell	A5153 Bridge	497.37	1834.73	0.271	0.00	0.00	0.37	5.46	(0.02)	0.045
1	Eastern Dumb-bell	A55 S/B Off-slip	301.00	980.70	0.307	0.00	0.00	0.44	6.38	(0.02)	0.088
1	Western Dumb-bell	A5153 Bridge	386.97	2098.92	0.184	0.00	0.00	0.23	3.33	(0.02)	0.035
1	Western Dumb-bell	A55 N/B Off-slip	391.00	1027.11	0.381	0.00	0.00	0.61	8.81	(0.02)	0.094
1	Western Dumb-bell	A5153 West	251.00	1184.41	0.212	0.00	0.00	0.27	3.92	(0.02)	0.064
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Eastern Dumb-bell	A5153 East	579.00	1339.03	0.432	0.00	0.75	0.76	11.35	(0.02)	0.079
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Eastern Dumb-bell	A5153 Bridge	499.98	1834.73	0.273	0.00	0.37	0.37	5.59	(0.02)	0.045
2	Eastern Dumb-bell	A55 S/B Off-slip	301.00	978.38	0.308	0.00	0.44	0.44	6.62	(0.02)	0.089
2	Western Dumb-bell	A5153 Bridge	388.99	2098.92	0.185	0.00	0.23	0.23	3.40	(0.02)	0.035
2	Western Dumb-bell	A55 N/B Off-slip	391.00	1025.48	0.381	0.00	0.61	0.61	9.17	(0.02)	0.095
2	Western Dumb-bell	A5153 West	251.00	1182.62	0.212	0.00	0.27	0.27	4.02	(0.02)	0.064
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	Eastern Dumb-	A5153	579.00	1339.03	0.432	0.00	0.76	0.76	11.38	(0.02)	0.079

	bell	East									
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	Eastern Dumb-bell	A5153 Bridge	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
3	Eastern Dumb-bell	A55 S/B Off-slip	301.00	978.37	0.308	0.00	0.44	0.44	6.64	(0.02)	0.089
3	Western Dumb-bell	A5153 Bridge	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
3	Western Dumb-bell	A55 N/B Off-slip	391.00	1025.47	0.381	0.00	0.61	0.61	9.20	(0.02)	0.095
3	Western Dumb-bell	A5153 West	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 East	579.00	1339.03	0.432	0.00	0.76	0.76	11.40	(0.02)	0.079
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 Bridge	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
4	Eastern Dumb-bell	A55 S/B Off-slip	301.00	978.37	0.308	0.00	0.44	0.44	6.65	(0.02)	0.089
4	Western Dumb-bell	A5153 Bridge	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
4	Western Dumb-bell	A55 N/B Off-slip	391.00	1025.47	0.381	0.00	0.61	0.61	9.22	(0.02)	0.095
4	Western Dumb-bell	A5153 West	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D13 - Base+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, AM	Base+Dev 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	

4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	A5153 West		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	A55 N/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	A5153 East	FLAT	Yes	343.00	100.000	1.00
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	Linked Arm			N/A	0.00
Eastern Dumb-bell	A55 S/B Off-slip	FLAT	Yes	213.00	100.000	1.00
Western Dumb-bell	A5153 Bridge	Linked Arm			N/A	0.00
Western Dumb-bell	A55 N/B Off-slip	FLAT	Yes	291.00	100.000	1.00
Western Dumb-bell	A5153 West	FLAT	Yes	280.00	100.000	1.00

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	343.00	343.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	213.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	291.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 West**	280.00	280.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 East**	343.00	343.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	213.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	291.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 West**	280.00	280.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A5153 East**	343.00	343.00	N/A	N/A
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	213.00	N/A	N/A
3	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A

3	Western Dumb-bell	A55 N/B Off-slip	291.00	291.00	N/A	N/A
3	Western Dumb-bell	A5153 West	280.00	280.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	343.00	343.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	213.00	213.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	291.00	291.00	N/A	N/A
4	Western Dumb-bell	A5153 West	280.00	280.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	117.000	226.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	307.000	139.000	0.000	0.000
	4	210.000	0.000	3.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.69	0.31	0.00	0.00
	4	0.99	0.00	0.01	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	103.000	126.000
	2	166.000	0.000	125.000	0.000
	3	279.000	0.000	0.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.45	0.55
	2	0.57	0.00	0.43	0.00
	3	1.00	0.00	0.00	0.00
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000

	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.26	0.06	0.36	A	343.00	343.00	21.15	0.06	0.35	21.15	0.06	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.24	0.04	0.32	A	444.52	444.52	19.05	0.04	0.32	19.05	0.04	0.665	1834.727

Eastern Dumb-bell	**A55 S/B Off-slip**	0.21	0.08	0.27	A	213.00	213.00	15.87	0.07	0.26	15.87	0.07	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.11	0.03	0.12	A	228.76	228.76	7.30	0.03	0.12	7.30	0.03	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.26	0.07	0.35	A	291.00	291.00	20.97	0.07	0.35	20.97	0.07	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.22	0.06	0.28	A	280.00	280.00	16.76	0.06	0.28	16.76	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	343.00	85.75	341.59	513.07	140.68	0.00	1307.63	1022.27	0.262	0.00	0.35
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	254.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	443.08	110.77	441.81	228.05	0.00	0.00	1834.73	1600.15	0.242	0.00	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	213.00	53.25	211.94	0.00	441.81	0.00	1011.35	221.40	0.211	0.00	0.27
Western Dumb-bell	**A5153 Bridge**	228.05	57.01	227.57	443.08	0.00	0.00	2098.92	1869.43	0.109	0.00	0.12
Western Dumb-bell	**A55 N/B Off-slip**	291.00	72.75	289.60	0.00	227.57	0.00	1115.59	80.17	0.261	0.00	0.35
Western Dumb-bell	**A5153 West**	280.00	70.00	278.88	226.75	290.41	0.00	1274.32	741.00	0.220	0.00	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	126.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	343.00	85.75	343.00	516.30	141.68	0.00	1307.03	1022.27	0.262	0.35	0.35
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	255.68	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	444.99	111.25	444.98	229.00	0.00	0.00	1834.73	1600.15	0.243	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	213.00	53.25	212.99	0.00	444.98	0.00	1009.55	221.40	0.211	0.27	0.27
Western Dumb-bell	**A5153 Bridge**	229.00	57.25	228.99	444.99	0.00	0.00	2098.92	1869.43	0.109	0.12	0.12
Western Dumb-bell	**A55 N/B Off-slip**	291.00	72.75	290.99	0.00	228.99	0.00	1114.79	80.17	0.261	0.35	0.35
Western Dumb-bell	**A5153 West**	280.00	70.00	280.00	228.00	291.99	0.00	1273.37	741.00	0.220	0.28	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	127.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	A5153 East	343.00	85.75	343.00	516.31	141.69	0.00	1307.03	1022.27	0.262	0.35	0.36
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	255.69	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	445.00	111.25	445.00	229.00	0.00	0.00	1834.73	1600.15	0.243	0.32	0.32
Eastern Dumb-bell	A55 S/B Off-slip	213.00	53.25	213.00	0.00	445.00	0.00	1009.55	221.40	0.211	0.27	0.27
Western Dumb-bell	A5153 Bridge	229.00	57.25	229.00	445.00	0.00	0.00	2098.92	1869.43	0.109	0.12	0.12
Western Dumb-bell	A55 N/B Off-slip	291.00	72.75	291.00	0.00	229.00	0.00	1114.79	80.17	0.261	0.35	0.35
Western Dumb-bell	A5153 West	280.00	70.00	280.00	228.00	292.00	0.00	1273.37	741.00	0.220	0.28	0.28
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	127.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	A5153 East	343.00	85.75	343.00	516.31	141.69	0.00	1307.03	1022.27	0.262	0.36	0.36
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	255.69	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	445.00	111.25	445.00	229.00	0.00	0.00	1834.73	1600.15	0.243	0.32	0.32
Eastern Dumb-bell	A55 S/B Off-slip	213.00	53.25	213.00	0.00	445.00	0.00	1009.54	221.40	0.211	0.27	0.27
Western Dumb-bell	A5153 Bridge	229.00	57.25	229.00	445.00	0.00	0.00	2098.92	1869.43	0.109	0.12	0.12
Western Dumb-bell	A55 N/B Off-slip	291.00	72.75	291.00	0.00	229.00	0.00	1114.79	80.17	0.261	0.35	0.35
Western Dumb-bell	A5153 West	280.00	70.00	280.00	228.00	292.00	0.00	1273.36	741.00	0.220	0.28	0.28
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	127.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	5.18	0.35	0.062	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	4.68	0.31	0.043	A	A

Eastern Dumb-bell	**A55 S/B Off-slip**	3.88	0.26	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.80	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.12	0.34	0.073	A	A
Western Dumb-bell	**A5153 West**	4.11	0.27	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	5.31	0.35	0.062	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.78	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	3.99	0.27	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.83	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.27	0.35	0.073	A	A
Western Dumb-bell	**A5153 West**	4.21	0.28	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	5.32	0.35	0.062	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.79	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	0.27	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.83	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.28	0.35	0.073	A	A
Western Dumb-bell	**A5153 West**	4.22	0.28	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	5.33	0.36	0.062	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.80	0.32	0.043	A	A

Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	0.27	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.84	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.29	0.35	0.073	A	A
Western Dumb-bell	**A5153 West**	4.22	0.28	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.63	0.262	0.00	0.00	0.35	5.18	(0.02)	0.062

1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	443.08	1834.73	0.242	0.00	0.00	0.32	4.68	(0.02)	0.043
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1011.35	0.211	0.00	0.00	0.27	3.88	(0.02)	0.075
1	**Western Dumb-bell**	**A5153 Bridge**	228.05	2098.92	0.109	0.00	0.00	0.12	1.80	(0.02)	0.032
1	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	1115.59	0.261	0.00	0.00	0.35	5.12	(0.02)	0.073
1	**Western Dumb-bell**	**A5153 West**	280.00	1274.32	0.220	0.00	0.00	0.28	4.11	(0.02)	0.060
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.03	0.262	0.00	0.35	0.35	5.31	(0.02)	0.062
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	444.99	1834.73	0.243	0.00	0.32	0.32	4.78	(0.02)	0.043
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1009.55	0.211	0.00	0.27	0.27	3.99	(0.02)	0.075
2	**Western Dumb-bell**	**A5153 Bridge**	229.00	2098.92	0.109	0.00	0.12	0.12	1.83	(0.02)	0.032
2	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	1114.79	0.261	0.00	0.35	0.35	5.27	(0.02)	0.073
2	**Western Dumb-bell**	**A5153 West**	280.00	1273.37	0.220	0.00	0.28	0.28	4.21	(0.02)	0.060
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.03	0.262	0.00	0.35	0.36	5.32	(0.02)	0.062
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	445.00	1834.73	0.243	0.00	0.32	0.32	4.79	(0.02)	0.043
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1009.55	0.211	0.00	0.27	0.27	4.00	(0.02)	0.075
3	**Western Dumb-bell**	**A5153 Bridge**	229.00	2098.92	0.109	0.00	0.12	0.12	1.83	(0.02)	0.032
3	**Western**	**A55 N/B**	291.00	1114.79	0.261	0.00	0.35	0.35	5.28	(0.02)	0.073

	Dumb-bell	**Off-slip**									
3	**Western Dumb-bell**	**A5153 West**	280.00	1273.37	0.220	0.00	0.28	0.28	4.22	(0.02)	0.060
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.03	0.262	0.00	0.36	0.36	5.33	(0.02)	0.062
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	445.00	1834.73	0.243	0.00	0.32	0.32	4.80	(0.02)	0.043
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1009.54	0.211	0.00	0.27	0.27	4.00	(0.02)	0.075
4	**Western Dumb-bell**	**A5153 Bridge**	229.00	2098.92	0.109	0.00	0.12	0.12	1.84	(0.02)	0.032
4	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	1114.79	0.261	0.00	0.35	0.35	5.29	(0.02)	0.073
4	**Western Dumb-bell**	**A5153 West**	280.00	1273.36	0.220	0.00	0.28	0.28	4.22	(0.02)	0.060
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D14 - Base+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

Base+Dev 2032, PM	Base+Dev 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00

Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727

Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	601.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	370.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	372.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	261.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	370.00	370.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	372.00	372.00	N/A	N/A
1	Western Dumb-bell	A5153 West	261.00	261.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	370.00	370.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	372.00	372.00	N/A	N/A
2	Western Dumb-bell	A5153 West	261.00	261.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	370.00	370.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	372.00	372.00	N/A	N/A
3	Western Dumb-bell	A5153 West	261.00	261.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	370.00	370.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	372.00	372.00	N/A	N/A

4	**Western Dumb-bell**	**A5153 West**	261.00	261.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	204.000	397.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	377.000	80.000	0.000	0.000
	4	361.000	0.000	9.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.82	0.18	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	213.000	194.000
	2	208.000	0.000	164.000	0.000
	3	249.000	0.000	0.000	12.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.52	0.48
	2	0.56	0.00	0.44	0.00
	3	0.95	0.00	0.00	0.05
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000

	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.45	0.08	0.81	A	601.00	601.00	48.19	0.08	0.80	48.21	0.08	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.25	0.04	0.33	A	456.42	456.42	19.72	0.04	0.33	19.72	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.37	0.09	0.58	A	370.00	370.00	34.53	0.09	0.58	34.54	0.09	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.19	0.04	0.24	A	405.45	405.45	14.28	0.04	0.24	14.28	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.37	0.09	0.58	A	372.00	372.00	34.13	0.09	0.57	34.14	0.09	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.22	0.06	0.28	A	261.00	261.00	16.38	0.06	0.27	16.39	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	597.77	732.75	88.31	0.00	1338.85	1154.89	0.449	0.00	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	282.27	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	454.68	113.67	453.37	403.81	0.00	0.00	1834.73	1619.12	0.248	0.00	0.33
Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	367.69	0.00	453.37	0.00	1004.80	221.43	0.368	0.00	0.58
Western Dumb-bell	**A5153 Bridge**	403.81	100.95	402.86	454.68	0.00	0.00	2098.92	1879.86	0.192	0.00	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	369.72	0.00	402.86	0.00	1017.73	79.75	0.366	0.00	0.57
Western Dumb-bell	**A5153 West**	261.00	65.25	259.91	373.83	398.75	0.00	1209.42	823.97	0.216	0.00	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	203.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	600.98	737.96	89.00	0.00	1338.44	1154.89	0.449	0.81	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	283.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	456.99	114.25	456.98	405.99	0.00	0.00	1834.73	1619.12	0.249	0.33	0.33
Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	369.98	0.00	456.98	0.00	1002.75	221.43	0.369	0.58	0.58
Western Dumb-bell	**A5153 Bridge**	405.99	101.50	405.98	456.99	0.00	0.00	2098.92	1879.86	0.193	0.24	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	371.98	0.00	405.98	0.00	1015.99	79.75	0.366	0.57	0.57
Western Dumb-bell	**A5153 West**	261.00	65.25	261.00	376.46	401.51	0.00	1207.77	823.97	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	205.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	600.99	737.99	89.00	0.00	1338.44	1154.89	0.449	0.81	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	284.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	457.00	114.25	456.99	406.00	0.00	0.00	1834.73	1619.12	0.249	0.33	0.33
Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	370.00	0.00	456.99	0.00	1002.74	221.43	0.369	0.58	0.58

Western Dumb-bell	**A5153 Bridge**	406.00	101.50	406.00	457.00	0.00	0.00	2098.92	1879.86	0.193	0.24	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	372.00	0.00	406.00	0.00	1015.98	79.75	0.366	0.57	0.58
Western Dumb-bell	**A5153 West**	261.00	65.25	261.00	376.47	401.52	0.00	1207.77	823.97	0.216	0.27	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	205.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	601.00	738.00	89.00	0.00	1338.44	1154.89	0.449	0.81	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	284.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	457.00	114.25	457.00	406.00	0.00	0.00	1834.73	1619.12	0.249	0.33	0.33
Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	370.00	0.00	457.00	0.00	1002.74	221.43	0.369	0.58	0.58
Western Dumb-bell	**A5153 Bridge**	406.00	101.50	406.00	457.00	0.00	0.00	2098.92	1879.86	0.193	0.24	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	372.00	0.00	406.00	0.00	1015.98	79.75	0.366	0.58	0.58
Western Dumb-bell	**A5153 West**	261.00	65.25	261.00	376.47	401.52	0.00	1207.76	823.97	0.216	0.28	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	205.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.69	0.78	0.081	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.84	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.36	0.56	0.094	A	A
Western Dumb-bell	**A5153 Bridge**	3.51	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.27	0.55	0.092	A	A
Western Dumb-bell	**A5153 West**	4.01	0.27	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay	Queueing Rate Of Delay (PCU-	Average Delay Per Arriving	Unsignalised Level Of	Signalised Level Of

		(PCU-min)	min/min)	Vehicle (min)	Service	Service
Eastern Dumb-bell	**A5153 East**	12.14	0.81	0.081	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.95	0.33	0.044	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.70	0.58	0.095	A	A
Western Dumb-bell	**A5153 Bridge**	3.58	0.24	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.60	0.57	0.093	A	A
Western Dumb-bell	**A5153 West**	4.12	0.27	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	12.18	0.81	0.081	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.96	0.33	0.044	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.73	0.58	0.095	A	A
Western Dumb-bell	**A5153 Bridge**	3.59	0.24	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.63	0.58	0.093	A	A
Western Dumb-bell	**A5153 West**	4.13	0.28	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	12.19	0.81	0.081	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.97	0.33	0.044	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.74	0.58	0.095	A	A
Western Dumb-bell	**A5153 Bridge**	3.59	0.24	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.64	0.58	0.093	A	A
Western Dumb-bell	**A5153 West**	4.13	0.28	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Eastern Dumb-bell	A5153 East	601.00	1338.85	0.449	0.00	0.00	0.81	11.69	(0.02)	0.081
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Eastern Dumb-bell	A5153 Bridge	454.68	1834.73	0.248	0.00	0.00	0.33	4.84	(0.02)	0.043
1	Eastern Dumb-bell	A55 S/B Off-slip	370.00	1004.80	0.368	0.00	0.00	0.58	8.36	(0.02)	0.094
1	Western Dumb-bell	A5153 Bridge	403.81	2098.92	0.192	0.00	0.00	0.24	3.51	(0.02)	0.035
1	Western Dumb-bell	A55 N/B Off-slip	372.00	1017.73	0.366	0.00	0.00	0.57	8.27	(0.02)	0.092
1	Western	A5153	261.00	1209.42	0.216	0.00	0.00	0.27	4.01	(0.02)	0.063

	Dumb-bell	**West**									
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	601.00	1338.44	0.449	0.00	0.81	0.81	12.14	(0.02)	0.081
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	456.99	1834.73	0.249	0.00	0.33	0.33	4.95	(0.02)	0.044
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	1002.75	0.369	0.00	0.58	0.58	8.70	(0.02)	0.095
2	**Western Dumb-bell**	**A5153 Bridge**	405.99	2098.92	0.193	0.00	0.24	0.24	3.58	(0.02)	0.035
2	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	1015.99	0.366	0.00	0.57	0.57	8.60	(0.02)	0.093
2	**Western Dumb-bell**	**A5153 West**	261.00	1207.77	0.216	0.00	0.27	0.27	4.12	(0.02)	0.063
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	601.00	1338.44	0.449	0.00	0.81	0.81	12.18	(0.02)	0.081
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	457.00	1834.73	0.249	0.00	0.33	0.33	4.96	(0.02)	0.044
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	1002.74	0.369	0.00	0.58	0.58	8.73	(0.02)	0.095
3	**Western Dumb-bell**	**A5153 Bridge**	406.00	2098.92	0.193	0.00	0.24	0.24	3.59	(0.02)	0.035
3	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	1015.98	0.366	0.00	0.57	0.58	8.63	(0.02)	0.093
3	**Western Dumb-bell**	**A5153 West**	261.00	1207.77	0.216	0.00	0.27	0.28	4.13	(0.02)	0.063
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	601.00	1338.44	0.449	0.00	0.81	0.81	12.19	(0.02)	0.081
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	457.00	1834.73	0.249	0.00	0.33	0.33	4.97	(0.02)	0.044

4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	1002.74	0.369	0.00	0.58	0.58	8.74	(0.02)	0.095
4	**Western Dumb-bell**	**A5153 Bridge**	406.00	2098.92	0.193	0.00	0.24	0.24	3.59	(0.02)	0.035
4	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	1015.98	0.366	0.00	0.58	0.58	8.64	(0.02)	0.093
4	**Western Dumb-bell**	**A5153 West**	261.00	1207.76	0.216	0.00	0.28	0.28	4.13	(0.02)	0.063
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D15 - Base+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, Sat	Base+Dev 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	

Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	579.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	301.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	391.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	251.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	579.00	579.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A

1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
1	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
2	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
3	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
4	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

	To			
From	1	2	3	4

	1	0.000	197.000	382.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	419.000	81.000	0.000	0.000
	4	294.000	0.000	7.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.84	0.16	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	202.000	188.000
	2	256.000	0.000	135.000	0.000
	3	244.000	0.000	0.000	7.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.52	0.48
	2	0.65	0.00	0.35	0.00
	3	0.97	0.00	0.00	0.03
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000

	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.43	0.08	0.76	A	579.00	579.00	45.08	0.08	0.75	45.09	0.08	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.27	0.04	0.37	A	499.34	499.34	22.26	0.04	0.37	22.26	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.31	0.09	0.44	A	301.00	301.00	26.28	0.09	0.44	26.29	0.09	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.19	0.04	0.23	A	388.49	388.49	13.55	0.03	0.23	13.55	0.03	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.38	0.09	0.61	A	391.00	391.00	36.39	0.09	0.61	36.40	0.09	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.21	0.06	0.27	A	251.00	251.00	16.01	0.06	0.27	16.01	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	575.98	707.84	87.29	0.00	1339.45	1167.94	0.432	0.00	0.75
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	276.31	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	497.37	124.34	495.88	386.97	0.00	0.00	1834.73	1620.66	0.271	0.00	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	299.24	0.00	495.88	0.00	980.70	221.43	0.307	0.00	0.44
Western Dumb-bell	**A5153 Bridge**	386.97	96.74	386.07	497.37	0.00	0.00	2098.92	1882.57	0.184	0.00	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	388.57	0.00	386.07	0.00	1027.11	79.64	0.381	0.00	0.61

Western Dumb-bell	**A5153 West**	251.00	62.75	249.93	334.12	440.51	0.00	1184.41	813.34	0.212	0.00	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	193.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	578.98	712.96	88.00	0.00	1339.03	1167.94	0.432	0.75	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	277.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	499.98	125.00	499.97	388.99	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	300.99	0.00	499.97	0.00	978.38	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	388.99	97.25	388.98	499.98	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	390.98	0.00	388.98	0.00	1025.48	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.47	443.50	0.00	1182.62	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	712.99	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	499.99	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	499.99	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.51	0.00	1182.61	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	713.00	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	500.00	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	500.00	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.52	0.00	1182.61	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.95	0.73	0.078	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.46	0.36	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.38	0.43	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	3.33	0.22	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.81	0.59	0.094	A	A
Western Dumb-bell	**A5153 West**	3.92	0.26	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.35	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.59	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.62	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.40	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.17	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.02	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	11.38	0.76	0.079	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.61	0.37	0.045	A	A
Eastern Dumb-bell	A55 S/B Off-slip	6.64	0.44	0.089	A	A
Western Dumb-bell	A5153 Bridge	3.41	0.23	0.035	A	A
Western Dumb-bell	A55 N/B Off-slip	9.20	0.61	0.095	A	A
Western Dumb-bell	A5153 West	4.03	0.27	0.064	A	A
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	11.40	0.76	0.079	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.61	0.37	0.045	A	A
Eastern Dumb-bell	A55 S/B Off-slip	6.65	0.44	0.089	A	A
Western Dumb-bell	A5153 Bridge	3.41	0.23	0.035	A	A
Western Dumb-bell	A55 N/B Off-slip	9.22	0.61	0.095	A	A
Western Dumb-bell	A5153 West	4.03	0.27	0.064	A	A
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-	A55 S/B	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

bell	**Off-slip**									
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.45	0.432	0.00	0.00	0.75	10.95	(0.02)	0.078
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	497.37	1834.73	0.271	0.00	0.00	0.37	5.46	(0.02)	0.045
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	980.70	0.307	0.00	0.00	0.44	6.38	(0.02)	0.088
1	**Western Dumb-bell**	**A5153 Bridge**	386.97	2098.92	0.184	0.00	0.00	0.23	3.33	(0.02)	0.035
1	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1027.11	0.381	0.00	0.00	0.61	8.81	(0.02)	0.094
1	**Western Dumb-bell**	**A5153 West**	251.00	1184.41	0.212	0.00	0.00	0.27	3.92	(0.02)	0.064
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.75	0.76	11.35	(0.02)	0.079
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	499.98	1834.73	0.273	0.00	0.37	0.37	5.59	(0.02)	0.045
2	**Eastern Dumb-**	**A55 S/B**	301.00	978.38	0.308	0.00	0.44	0.44	6.62	(0.02)	0.089

	bell	**Off-slip**									
2	**Western Dumb-bell**	**A5153 Bridge**	388.99	2098.92	0.185	0.00	0.23	0.23	3.40	(0.02)	0.035
2	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.48	0.381	0.00	0.61	0.61	9.17	(0.02)	0.095
2	**Western Dumb-bell**	**A5153 West**	251.00	1182.62	0.212	0.00	0.27	0.27	4.02	(0.02)	0.064
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.76	0.76	11.38	(0.02)	0.079
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.37	0.308	0.00	0.44	0.44	6.64	(0.02)	0.089
3	**Western Dumb-bell**	**A5153 Bridge**	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
3	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.47	0.381	0.00	0.61	0.61	9.20	(0.02)	0.095
3	**Western Dumb-bell**	**A5153 West**	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.76	0.76	11.40	(0.02)	0.079
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.37	0.308	0.00	0.44	0.44	6.65	(0.02)	0.089
4	**Western Dumb-bell**	**A5153 Bridge**	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
4	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.47	0.381	0.00	0.61	0.61	9.22	(0.02)	0.095
4	**Western Dumb-bell**	**A5153 West**	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

ARCADY 7

Version: 7.1.1.245 [9th June 2011]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

File: L:\Manchester Projects\90145 Penrhos Leisure Village Anglesey\I -Calculations\Revised Part Cybi\Modelling\2. A55_Junction 2_2032_Flat.arc7
Report generation date: 25/02/2013 13:57:16

Summary of roundabout performance

	AM		PM		Sat	
	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC
	(Default Analysis Set) - Base+Com 2032					
Eastern Dumb-bell - A5153 East	0.69	0.41	1.49	0.60	0.67	0.40
Eastern Dumb-bell - A5153 Bridge	0.32	0.25	1.09	0.52	0.30	0.23
Eastern Dumb-bell - A55 S/B Off-slip	0.35	0.26	1.22	0.55	0.42	0.29
Western Dumb-bell - A5153 Bridge	0.27	0.22	0.32	0.24	0.21	0.17

Western Dumb-bell - A55 N/B Off-slip	1.30	0.57	0.96	0.49	0.45	0.31
Western Dumb-bell - A5153 West	0.31	0.23	2.15	0.68	0.17	0.15
	(Default Analysis Set) - Base+Com+Dev 2032					
Eastern Dumb-bell - A5153 East	0.78	0.44	1.85	0.65	0.76	0.43
Eastern Dumb-bell - A5153 Bridge	0.45	0.31	1.30	0.57	0.37	0.27
Eastern Dumb-bell - A55 S/B Off-slip	0.38	0.28	1.42	0.59	0.44	0.31
Western Dumb-bell - A5153 Bridge	0.29	0.22	0.35	0.26	0.23	0.19
Western Dumb-bell - A55 N/B Off-slip	1.74	0.64	1.46	0.59	0.61	0.38
Western Dumb-bell - A5153 West	0.49	0.33	2.98	0.75	0.27	0.21
	(Default Analysis Set) - Base+Dev 2032					
Eastern Dumb-bell - A5153 East	0.36	0.26	0.81	0.45	0.76	0.43
Eastern Dumb-bell - A5153 Bridge	0.32	0.24	0.33	0.25	0.37	0.27
Eastern Dumb-bell - A55 S/B Off-slip	0.27	0.21	0.58	0.37	0.44	0.31
Western Dumb-bell - A5153 Bridge	0.12	0.11	0.24	0.19	0.23	0.19
Western Dumb-bell - A55 N/B Off-slip	0.35	0.26	0.58	0.37	0.61	0.38
Western Dumb-bell - A5153 West	0.28	0.22	0.28	0.22	0.27	0.21

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

Base+Com 2032 - AM runs from 08:30:00 to 09:30:00
Base+Com 2032 - PM runs from 15:45:00 to 16:45:00
Base+Com 2032 - Sat runs from 12:15:00 to 13:15:00
Base+Com+Dev 2032 - AM runs from 08:30:00 to 09:30:00
Base+Com+Dev 2032 - PM runs from 15:45:00 to 16:45:00
Base+Com+Dev 2032 - Sat runs from 12:15:00 to 13:15:00
Base+Dev 2032 - AM runs from 08:30:00 to 09:30:00
Base+Dev 2032 - PM runs from 15:45:00 to 16:45:00
Base+Dev 2032 - Sat runs from 12:15:00 to 13:15:00

File summary

File Description

Title	A55/Junction 2

Location	
Site Number	
Date	01/02/2013
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	T Nichol
Description	Alternative Distribution

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	PCU	PCU	perHour	min	-Min	perMin

A1 - (Default Analysis Set) - D7 - Base+Com 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors

(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, AM	Base+Com 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	

3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None

Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	521.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	259.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	561.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	299.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	521.00	521.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	259.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	561.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 West**	299.00	299.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 East**	521.00	521.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A

2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	259.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	561.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 West**	299.00	299.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A5153 East**	521.00	521.00	N/A	N/A
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	259.00	N/A	N/A
3	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
3	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	561.00	N/A	N/A
3	**Western Dumb-bell**	**A5153 West**	299.00	299.00	N/A	N/A
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A5153 East**	521.00	521.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	259.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	561.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 West**	299.00	299.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	117.000	404.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	301.000	149.000	0.000	0.000
	4	210.000	0.000	49.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.22	0.78	0.00
	2	0.25	0.25	0.25	0.25
	3	0.67	0.33	0.00	0.00
	4	0.81	0.00	0.19	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	328.000	126.000
	2	166.000	0.000	395.000	0.000
	3	284.000	0.000	0.000	15.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.72	0.28
	2	0.30	0.00	0.70	0.00
	3	0.95	0.00	0.00	0.05
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000

	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.41	0.08	0.69	A	521.00	521.00	40.97	0.08	0.68	40.98	0.08	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.25	0.04	0.32	A	449.32	449.32	19.32	0.04	0.32	19.32	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.26	0.08	0.35	A	259.00	259.00	20.53	0.08	0.34	20.53	0.08	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.22	0.04	0.27	A	452.40	452.40	16.38	0.04	0.27	16.38	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.57	0.14	1.30	A	561.00	561.00	76.28	0.14	1.27	76.33	0.14	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.23	0.06	0.31	A	299.00	299.00	18.24	0.06	0.30	18.24	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	521.00	130.25	518.26	507.24	196.43	0.00	1274.40	983.29	0.409	0.00	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	264.08	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	447.33	111.83	446.05	450.61	0.00	0.00	1834.73	1626.60	0.244	0.00	0.32

Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	257.63	0.00	446.05	0.00	1008.95	221.44	0.257	0.00	0.34
Western Dumb-bell	**A5153 Bridge**	450.61	112.65	449.52	447.33	0.00	0.00	2098.92	1925.80	0.215	0.00	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	555.90	0.00	449.52	0.00	991.68	77.90	0.566	0.00	1.28
Western Dumb-bell	**A5153 West**	299.00	74.75	297.78	716.17	289.25	0.00	1275.01	1066.21	0.235	0.00	0.30
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	139.70	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	521.00	130.25	520.99	510.97	197.99	0.00	1273.48	983.29	0.409	0.69	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	265.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	449.97	112.49	449.96	452.99	0.00	0.00	1834.73	1626.60	0.245	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	258.99	0.00	449.96	0.00	1006.73	221.44	0.257	0.34	0.34
Western Dumb-bell	**A5153 Bridge**	452.99	113.25	452.98	449.97	0.00	0.00	2098.92	1925.80	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	560.93	0.00	452.98	0.00	989.76	77.90	0.567	1.28	1.29
Western Dumb-bell	**A5153 West**	299.00	74.75	299.00	722.21	291.70	0.00	1273.55	1066.21	0.235	0.30	0.31
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	521.00	130.25	521.00	510.99	198.00	0.00	1273.47	983.29	0.409	0.69	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	266.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	449.99	112.50	449.99	453.00	0.00	0.00	1834.73	1626.60	0.245	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	449.99	0.00	1006.71	221.44	0.257	0.34	0.35
Western Dumb-bell	**A5153 Bridge**	453.00	113.25	452.99	449.99	0.00	0.00	2098.92	1925.80	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	560.98	0.00	452.99	0.00	989.75	77.90	0.567	1.29	1.30
Western Dumb-bell	**A5153 West**	299.00	74.75	299.00	722.26	291.71	0.00	1273.54	1066.21	0.235	0.31	0.31

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	521.00	130.25	521.00	511.00	198.00	0.00	1273.47	983.29	0.409	0.69	0.69
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	266.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	450.00	112.50	450.00	453.00	0.00	0.00	1834.73	1626.60	0.245	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	450.00	0.00	1006.71	221.44	0.257	0.35	0.35
Western Dumb-bell	**A5153 Bridge**	453.00	113.25	453.00	450.00	0.00	0.00	2098.92	1925.80	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B Off-slip**	561.00	140.25	560.99	0.00	453.00	0.00	989.74	77.90	0.567	1.30	1.30
Western Dumb-bell	**A5153 West**	299.00	74.75	299.00	722.27	291.72	0.00	1273.53	1066.21	0.235	0.31	0.31
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	9.95	0.66	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.74	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.00	0.33	0.080	A	A
Western Dumb-bell	**A5153 Bridge**	4.03	0.27	0.036	A	A
Western Dumb-bell	**A55 N/B Off-slip**	18.04	1.20	0.136	A	A
Western Dumb-bell	**A5153 West**	4.47	0.30	0.061	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay	Queueing Rate Of Delay (PCU-	Average Delay Per Arriving	Unsignalised Level Of	Signalised Level Of

		(PCU-min)	min/min)	Vehicle (min)	Service	Service
Eastern Dumb-bell	**A5153 East**	10.32	0.69	0.080	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.85	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.16	0.34	0.080	A	A
Western Dumb-bell	**A5153 Bridge**	4.11	0.27	0.036	A	A
Western Dumb-bell	**A55 N/B Off-slip**	19.30	1.29	0.140	A	A
Western Dumb-bell	**A5153 West**	4.58	0.31	0.062	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.35	0.69	0.080	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.86	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.18	0.35	0.080	A	A
Western Dumb-bell	**A5153 Bridge**	4.12	0.27	0.036	A	A
Western Dumb-bell	**A55 N/B Off-slip**	19.44	1.30	0.140	A	A
Western Dumb-bell	**A5153 West**	4.59	0.31	0.062	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.36	0.69	0.080	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.87	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.18	0.35	0.080	A	A
Western Dumb-bell	**A5153 Bridge**	4.12	0.27	0.036	A	A
Western Dumb-bell	**A55 N/B Off-slip**	19.50	1.30	0.140	A	A
Western Dumb-bell	**A5153 West**	4.59	0.31	0.062	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Eastern Dumb-bell	A5153 East	521.00	1274.40	0.409	0.00	0.00	0.69	9.95	(0.02)	0.079
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Eastern Dumb-bell	A5153 Bridge	447.33	1834.73	0.244	0.00	0.00	0.32	4.74	(0.02)	0.043

1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	1008.95	0.257	0.00	0.00	0.34	5.00	(0.02)	0.080
1	**Western Dumb-bell**	**A5153 Bridge**	450.61	2098.92	0.215	0.00	0.00	0.27	4.03	(0.02)	0.036
1	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	991.68	0.566	0.00	0.00	1.28	18.04	(0.02)	0.136
1	**Western Dumb-bell**	**A5153 West**	299.00	1275.01	0.235	0.00	0.00	0.30	4.47	(0.02)	0.061
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	521.00	1273.48	0.409	0.00	0.69	0.69	10.32	(0.02)	0.080
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	449.97	1834.73	0.245	0.00	0.32	0.32	4.85	(0.02)	0.043
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	1006.73	0.257	0.00	0.34	0.34	5.16	(0.02)	0.080
2	**Western Dumb-bell**	**A5153 Bridge**	452.99	2098.92	0.216	0.00	0.27	0.27	4.11	(0.02)	0.036
2	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	989.76	0.567	0.00	1.28	1.29	19.30	(0.02)	0.140
2	**Western Dumb-bell**	**A5153 West**	299.00	1273.55	0.235	0.00	0.30	0.31	4.58	(0.02)	0.062
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	521.00	1273.47	0.409	0.00	0.69	0.69	10.35	(0.02)	0.080
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	449.99	1834.73	0.245	0.00	0.32	0.32	4.86	(0.02)	0.043
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	1006.71	0.257	0.00	0.34	0.35	5.18	(0.02)	0.080
3	**Western Dumb-bell**	**A5153 Bridge**	453.00	2098.92	0.216	0.00	0.27	0.27	4.12	(0.02)	0.036

3	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	989.75	0.567	0.00	1.29	1.30	19.44	(0.02)	0.140
3	**Western Dumb-bell**	**A5153 West**	299.00	1273.54	0.235	0.00	0.31	0.31	4.59	(0.02)	0.062
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	521.00	1273.47	0.409	0.00	0.69	0.69	10.36	(0.02)	0.080
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	450.00	1834.73	0.245	0.00	0.32	0.32	4.87	(0.02)	0.043
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	1006.71	0.257	0.00	0.35	0.35	5.18	(0.02)	0.080
4	**Western Dumb-bell**	**A5153 Bridge**	453.00	2098.92	0.216	0.00	0.27	0.27	4.12	(0.02)	0.036
4	**Western Dumb-bell**	**A55 N/B Off-slip**	561.00	989.74	0.567	0.00	1.30	1.30	19.50	(0.02)	0.140
4	**Western Dumb-bell**	**A5153 West**	299.00	1273.53	0.235	0.00	0.31	0.31	4.59	(0.02)	0.062
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D8 - Base+Com 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, PM	Base+Com 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	A5153 East	0.00	99999.00		0.00
Eastern Dumb-bell	A55 S/B On-slip	0.00	99999.00		0.00
Eastern Dumb-bell	A5153 Bridge	0.00	99999.00		0.00
Eastern Dumb-bell	A55 S/B Off-slip	0.00	99999.00		0.00
Western Dumb-bell	A5153 Bridge	0.00	99999.00		0.00
Western Dumb-bell	A55 N/B Off-slip	0.00	99999.00		0.00
Western Dumb-bell	A5153 West	0.00	99999.00		0.00
Western Dumb-bell	A55 N/B On-slip	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	A5153 East	None
Eastern Dumb-bell	A55 S/B On-slip	None
Eastern Dumb-bell	A5153 Bridge	None
Eastern Dumb-bell	A55 S/B Off-slip	None
Western Dumb-bell	A5153 Bridge	None
Western Dumb-bell	A55 N/B Off-slip	None
Western Dumb-bell	A5153 West	None
Western Dumb-bell	A55 N/B On-slip	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	676.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	396.00	100.000	1.00

Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	471.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	827.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Eastern Dumb-bell**	**A5153 East**	676.00	676.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	396.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B Off-slip**	471.00	471.00	N/A	N/A
1	**Western Dumb-bell**	**A5153 West**	827.00	827.00	N/A	N/A
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 East**	676.00	676.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	396.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B Off-slip**	471.00	471.00	N/A	N/A
2	**Western Dumb-bell**	**A5153 West**	827.00	827.00	N/A	N/A
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

3	Eastern Dumb-bell	A5153 East	676.00	676.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	471.00	471.00	N/A	N/A
3	Western Dumb-bell	A5153 West	827.00	827.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	676.00	676.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	471.00	471.00	N/A	N/A
4	Western Dumb-bell	A5153 West	827.00	827.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	204.000	472.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	549.000	410.000	0.000	0.000
	4	361.000	0.000	35.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

	To			
From	1	2	3	4

	1	0.00	0.30	0.70	0.00
	2	0.25	0.25	0.25	0.25
	3	0.57	0.43	0.00	0.00
	4	0.91	0.00	0.09	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	313.000	194.000
	2	208.000	0.000	263.000	0.000
	3	751.000	0.000	0.000	76.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.62	0.38
	2	0.44	0.00	0.56	0.00
	3	0.91	0.00	0.00	0.09
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000

	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.60	0.13	1.49	A	676.00	676.00	87.35	0.13	1.46	87.41	0.13	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.52	0.07	1.09	A	956.62	956.62	64.33	0.07	1.07	64.35	0.07	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.55	0.19	1.22	B	396.00	396.00	70.74	0.18	1.18	70.80	0.18	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.24	0.04	0.32	A	505.85	505.85	18.92	0.04	0.32	18.92	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.49	0.12	0.96	A	471.00	471.00	56.47	0.12	0.94	56.50	0.12	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.68	0.16	2.15	A	827.00	827.00	125.28	0.15	2.09	125.39	0.15	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	676.00	169.00	670.17	897.99	438.81	0.00	1129.94	901.70	0.598	0.00	1.46
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	606.46	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	949.73	237.43	945.48	502.52	0.00	0.00	1834.73	1594.44	0.518	0.00	1.06
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	391.32	0.00	945.48	0.00	725.85	221.39	0.546	0.00	1.17
Western Dumb-bell	**A5153 Bridge**	502.52	125.63	501.26	949.73	0.00	0.00	2098.92	1892.07	0.239	0.00	0.31
Western Dumb-bell	**A55 N/B Off-slip**	471.00	117.75	467.23	0.00	501.26	0.00	962.80	79.26	0.489	0.00	0.94
Western Dumb-bell	**A5153 West**	827.00	206.75	818.63	570.35	398.14	0.00	1209.79	936.16	0.684	0.00	2.09
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	267.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	676.00	169.00	675.90	909.71	444.87	0.00	1126.32	901.70	0.600	1.46	1.48
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	613.85	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	958.82	239.71	958.73	506.92	0.00	0.00	1834.73	1594.44	0.523	1.06	1.09
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.85	0.00	958.73	0.00	718.34	221.39	0.551	1.17	1.21
Western Dumb-bell	**A5153 Bridge**	506.92	126.73	506.90	958.82	0.00	0.00	2098.92	1892.07	0.242	0.31	0.32
Western Dumb-bell	**A55 N/B Off-slip**	471.00	117.75	470.95	0.00	506.90	0.00	959.65	79.26	0.491	0.94	0.95
Western Dumb-bell	**A5153 West**	827.00	206.75	826.83	575.91	401.94	0.00	1207.51	936.16	0.685	2.09	2.14
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.95	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	676.00	169.00	675.97	909.93	444.97	0.00	1126.27	901.70	0.600	1.48	1.49
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	613.96	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	958.95	239.74	958.93	506.98	0.00	0.00	1834.73	1594.44	0.523	1.09	1.09
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.97	0.00	958.93	0.00	718.23	221.39	0.551	1.21	1.22
Western Dumb-bell	**A5153 Bridge**	506.98	126.74	506.98	958.95	0.00	0.00	2098.92	1892.07	0.242	0.32	0.32
Western Dumb-bell	**A55 N/B Off-slip**	471.00	117.75	470.99	0.00	506.98	0.00	959.61	79.26	0.491	0.95	0.96
Western Dumb-bell	**A5153 West**	827.00	206.75	826.95	575.98	401.98	0.00	1207.49	936.16	0.685	2.14	2.15
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	676.00	169.00	675.99	909.97	444.99	0.00	1126.26	901.70	0.600	1.49	1.49

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	613.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	958.97	239.74	958.97	506.99	0.00	0.00	1834.73	1594.44	0.523	1.09	1.09
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.98	0.00	958.97	0.00	718.21	221.39	0.551	1.22	1.22
Western Dumb-bell	**A5153 Bridge**	506.99	126.75	506.99	958.97	0.00	0.00	2098.92	1892.07	0.242	0.32	0.32
Western Dumb-bell	**A55 N/B Off-slip**	471.00	117.75	470.99	0.00	506.99	0.00	959.61	79.26	0.491	0.96	0.96
Western Dumb-bell	**A5153 West**	827.00	206.75	826.97	575.99	401.99	0.00	1207.48	936.16	0.685	2.15	2.15
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	20.60	1.37	0.129	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	15.43	1.03	0.067	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	16.38	1.09	0.177	B	B
Western Dumb-bell	**A5153 Bridge**	4.63	0.31	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	13.47	0.90	0.120	A	A
Western Dumb-bell	**A5153 West**	29.06	1.94	0.150	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	22.10	1.47	0.133	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	16.20	1.08	0.068	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	17.92	1.19	0.186	B	B
Western Dumb-bell	**A5153 Bridge**	4.75	0.32	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	14.26	0.95	0.123	A	A

Western Dumb-bell	**A5153 West**	31.79	2.12	0.157	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	22.29	1.49	0.133	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	16.33	1.09	0.069	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	18.18	1.21	0.186	B	B
Western Dumb-bell	**A5153 Bridge**	4.77	0.32	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	14.35	0.96	0.123	A	A
Western Dumb-bell	**A5153 West**	32.14	2.14	0.158	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	22.36	1.49	0.133	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	16.37	1.09	0.069	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	18.27	1.22	0.186	B	B
Western Dumb-bell	**A5153 Bridge**	4.77	0.32	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	14.39	0.96	0.123	A	A
Western Dumb-bell	**A5153 West**	32.28	2.15	0.158	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)

Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	676.00	1129.94	0.598	0.00	0.00	1.46	20.60	(0.02)	0.129
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	949.73	1834.73	0.518	0.00	0.00	1.06	15.43	(0.02)	0.067
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	725.85	0.546	0.00	0.00	1.17	16.38	(0.02)	0.177
1	**Western Dumb-bell**	**A5153 Bridge**	502.52	2098.92	0.239	0.00	0.00	0.31	4.63	(0.02)	0.038
1	**Western Dumb-bell**	**A55 N/B Off-slip**	471.00	962.80	0.489	0.00	0.00	0.94	13.47	(0.02)	0.120

1	**Western Dumb-bell**	**A5153 West**	827.00	1209.79	0.684	0.00	0.00	2.09	29.06	(0.02)	0.150
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	676.00	1126.32	0.600	0.00	1.46	1.48	22.10	(0.02)	0.133
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	958.82	1834.73	0.523	0.00	1.06	1.09	16.20	(0.02)	0.068
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	718.34	0.551	0.00	1.17	1.21	17.92	(0.02)	0.186
2	**Western Dumb-bell**	**A5153 Bridge**	506.92	2098.92	0.242	0.00	0.31	0.32	4.75	(0.02)	0.038
2	**Western Dumb-bell**	**A55 N/B Off-slip**	471.00	959.65	0.491	0.00	0.94	0.95	14.26	(0.02)	0.123
2	**Western Dumb-bell**	**A5153 West**	827.00	1207.51	0.685	0.00	2.09	2.14	31.79	(0.02)	0.157
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	676.00	1126.27	0.600	0.00	1.48	1.49	22.29	(0.02)	0.133
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	958.95	1834.73	0.523	0.00	1.09	1.09	16.33	(0.02)	0.069
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	718.23	0.551	0.00	1.21	1.22	18.18	(0.02)	0.186
3	**Western Dumb-bell**	**A5153 Bridge**	506.98	2098.92	0.242	0.00	0.32	0.32	4.77	(0.02)	0.038
3	**Western Dumb-bell**	**A55 N/B Off-slip**	471.00	959.61	0.491	0.00	0.95	0.96	14.35	(0.02)	0.123
3	**Western Dumb-bell**	**A5153 West**	827.00	1207.49	0.685	0.00	2.14	2.15	32.14	(0.02)	0.158
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

4	Eastern Dumb-bell	A5153 East	676.00	1126.26	0.600	0.00	1.49	1.49	22.36	(0.02)	0.133
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	Eastern Dumb-bell	A5153 Bridge	958.97	1834.73	0.523	0.00	1.09	1.09	16.37	(0.02)	0.069
4	Eastern Dumb-bell	A55 S/B Off-slip	396.00	718.21	0.551	0.00	1.22	1.22	18.27	(0.02)	0.186
4	Western Dumb-bell	A5153 Bridge	506.99	2098.92	0.242	0.00	0.32	0.32	4.77	(0.02)	0.038
4	Western Dumb-bell	A55 N/B Off-slip	471.00	959.61	0.491	0.00	0.96	0.96	14.39	(0.02)	0.123
4	Western Dumb-bell	A5153 West	827.00	1207.48	0.685	0.00	2.15	2.15	32.28	(0.02)	0.158
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D9 - Base+Com 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, Sat	Base+Com 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00

Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	**A5153 East**	None
Eastern Dumb-bell	**A55 S/B On-slip**	None
Eastern Dumb-bell	**A5153 Bridge**	None
Eastern Dumb-bell	**A55 S/B Off-slip**	None
Western Dumb-bell	**A5153 Bridge**	None
Western Dumb-bell	**A55 N/B Off-slip**	None
Western Dumb-bell	**A5153 West**	None
Western Dumb-bell	**A55 N/B On-slip**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)

Eastern Dumb-bell	**A5153 East**		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	552.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	301.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	324.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	175.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	A5153 Bridge	2	1	Yes			10.00
Western Dumb-bell	A5153 Bridge	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	552.00	552.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	324.00	324.00	N/A	N/A
1	Western Dumb-bell	A5153 West	175.00	175.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	552.00	552.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	324.00	324.00	N/A	N/A
2	Western Dumb-bell	A5153 West	175.00	175.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	552.00	552.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A

3	Western Dumb-bell	A55 N/B Off-slip	324.00	324.00	N/A	N/A
3	Western Dumb-bell	A5153 West	175.00	175.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	552.00	552.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
4	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
4	Western Dumb-bell	A55 N/B Off-slip	324.00	324.00	N/A	N/A
4	Western Dumb-bell	A5153 West	175.00	175.00	N/A	N/A
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	197.000	355.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	396.000	28.000	0.000	0.000
	4	294.000	0.000	7.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.36	0.64	0.00
	2	0.25	0.25	0.25	0.25
	3	0.93	0.07	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	175.000	188.000
	2	256.000	0.000	68.000	0.000
	3	168.000	0.000	0.000	7.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.00	0.48	0.52
	2	0.79	0.00	0.21	0.00
	3	0.96	0.00	0.00	0.04
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max	Max	Max	Max	Total	Total	Total	Average	Rate Of	Inclusive	Inclusive	Slope	Intercept

		RFC	Delay (min)	Queue (PCU)	LOS	Demand (PCU/hr)	Arrivals (PCU)	Queueing Delay (PCU-min)	Queueing Delay (min)	Queueing Delay (PCU-min/min)	Queueing Total Delay (PCU-min)	Queueing Average Delay (min)		(PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.40	0.07	0.67	A	552.00	552.00	39.96	0.07	0.67	39.97	0.07	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	0.23	0.04	0.30	A	423.48	423.48	17.88	0.04	0.30	17.88	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.29	0.08	0.42	A	301.00	301.00	24.74	0.08	0.41	24.75	0.08	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.17	0.03	0.21	A	361.56	361.56	12.42	0.03	0.21	12.42	0.03	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.31	0.08	0.45	A	324.00	324.00	26.78	0.08	0.45	26.78	0.08	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.15	0.06	0.17	A	175.00	175.00	10.33	0.06	0.17	10.33	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	552.00	138.00	549.33	685.33	34.75	0.00	1370.77	1262.88	0.403	0.00	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	223.83	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	421.92	105.48	420.73	360.24	0.00	0.00	1834.73	1629.28	0.230	0.00	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	299.35	0.00	420.73	0.00	1023.30	221.45	0.294	0.00	0.41
Western Dumb-bell	**A5153 Bridge**	360.24	90.06	359.41	421.92	0.00	0.00	2098.92	1872.82	0.172	0.00	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	322.21	0.00	359.41	0.00	1041.99	80.03	0.311	0.00	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	174.31	240.90	440.73	0.00	1184.28	766.58	0.148	0.00	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	193.12	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)

Eastern Dumb-bell	**A5153 East**	552.00	138.00	551.99	689.97	35.00	0.00	1370.62	1262.88	0.403	0.67	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	224.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	423.99	106.00	423.98	361.99	0.00	0.00	1834.73	1629.28	0.231	0.30	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	300.99	0.00	423.98	0.00	1021.46	221.45	0.295	0.41	0.42
Western Dumb-bell	**A5153 Bridge**	361.99	90.50	361.99	423.99	0.00	0.00	2098.92	1872.82	0.172	0.21	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	323.99	0.00	361.99	0.00	1040.55	80.03	0.311	0.45	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	175.00	242.51	443.47	0.00	1182.64	766.58	0.148	0.17	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	552.00	138.00	552.00	689.99	35.00	0.00	1370.62	1262.88	0.403	0.67	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	225.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	424.00	106.00	424.00	362.00	0.00	0.00	1834.73	1629.28	0.231	0.30	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	424.00	0.00	1021.45	221.45	0.295	0.42	0.42
Western Dumb-bell	**A5153 Bridge**	362.00	90.50	362.00	424.00	0.00	0.00	2098.92	1872.82	0.172	0.21	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	324.00	0.00	362.00	0.00	1040.54	80.03	0.311	0.45	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	175.00	242.52	443.48	0.00	1182.63	766.58	0.148	0.17	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	552.00	138.00	552.00	690.00	35.00	0.00	1370.62	1262.88	0.403	0.67	0.67
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	225.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	424.00	106.00	424.00	362.00	0.00	0.00	1834.73	1629.28	0.231	0.30	0.30
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	424.00	0.00	1021.45	221.45	0.295	0.42	0.42

Western Dumb-bell	**A5153 Bridge**	362.00	90.50	362.00	424.00	0.00	0.00	2098.92	1872.82	0.172	0.21	0.21
Western Dumb-bell	**A55 N/B Off-slip**	324.00	81.00	324.00	0.00	362.00	0.00	1040.54	80.03	0.311	0.45	0.45
Western Dumb-bell	**A5153 West**	175.00	43.75	175.00	242.52	443.48	0.00	1182.63	766.58	0.148	0.17	0.17
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.48	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	9.73	0.65	0.073	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.39	0.29	0.042	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.02	0.40	0.083	A	A
Western Dumb-bell	**A5153 Bridge**	3.06	0.20	0.034	A	A
Western Dumb-bell	**A55 N/B Off-slip**	6.51	0.43	0.083	A	A
Western Dumb-bell	**A5153 West**	2.54	0.17	0.059	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.06	0.67	0.073	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.49	0.30	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.23	0.42	0.083	A	A
Western Dumb-bell	**A5153 Bridge**	3.11	0.21	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	6.74	0.45	0.084	A	A
Western Dumb-bell	**A5153 West**	2.59	0.17	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	10.08	0.67	0.073	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	4.50	0.30	0.043	A	A
Eastern Dumb-bell	A55 S/B Off-slip	6.24	0.42	0.083	A	A
Western Dumb-bell	A5153 Bridge	3.12	0.21	0.035	A	A
Western Dumb-bell	A55 N/B Off-slip	6.76	0.45	0.084	A	A
Western Dumb-bell	A5153 West	2.60	0.17	0.060	A	A
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	A5153 East	10.09	0.67	0.073	A	A
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge	4.50	0.30	0.043	A	A
Eastern Dumb-bell	A55 S/B Off-slip	6.25	0.42	0.083	A	A
Western Dumb-bell	A5153 Bridge	3.12	0.21	0.035	A	A
Western Dumb-bell	A55 N/B Off-slip	6.77	0.45	0.084	A	A
Western Dumb-bell	A5153 West	2.60	0.17	0.060	A	A
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-	A5153	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727

bell	**Bridge**									
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	552.00	1370.77	0.403	0.00	0.00	0.67	9.73	(0.02)	0.073
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	421.92	1834.73	0.230	0.00	0.00	0.30	4.39	(0.02)	0.042
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	1023.30	0.294	0.00	0.00	0.41	6.02	(0.02)	0.083
1	**Western Dumb-bell**	**A5153 Bridge**	360.24	2098.92	0.172	0.00	0.00	0.21	3.06	(0.02)	0.034
1	**Western Dumb-bell**	**A55 N/B Off-slip**	324.00	1041.99	0.311	0.00	0.00	0.45	6.51	(0.02)	0.083
1	**Western Dumb-bell**	**A5153 West**	175.00	1184.28	0.148	0.00	0.00	0.17	2.54	(0.02)	0.059
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-**	**A5153**	552.00	1370.62	0.403	0.00	0.67	0.67	10.06	(0.02)	0.073

	bell	**East**									
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 Bridge**	423.99	1834.73	0.231	0.00	0.30	0.30	4.49	(0.02)	0.043
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	1021.46	0.295	0.00	0.41	0.42	6.23	(0.02)	0.083
2	**Western Dumb-bell**	**A5153 Bridge**	361.99	2098.92	0.172	0.00	0.21	0.21	3.11	(0.02)	0.035
2	**Western Dumb-bell**	**A55 N/B Off-slip**	324.00	1040.55	0.311	0.00	0.45	0.45	6.74	(0.02)	0.084
2	**Western Dumb-bell**	**A5153 West**	175.00	1182.64	0.148	0.00	0.17	0.17	2.59	(0.02)	0.060
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	552.00	1370.62	0.403	0.00	0.67	0.67	10.08	(0.02)	0.073
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	424.00	1834.73	0.231	0.00	0.30	0.30	4.50	(0.02)	0.043
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	1021.45	0.295	0.00	0.42	0.42	6.24	(0.02)	0.083
3	**Western Dumb-bell**	**A5153 Bridge**	362.00	2098.92	0.172	0.00	0.21	0.21	3.12	(0.02)	0.035
3	**Western Dumb-bell**	**A55 N/B Off-slip**	324.00	1040.54	0.311	0.00	0.45	0.45	6.76	(0.02)	0.084
3	**Western Dumb-bell**	**A5153 West**	175.00	1182.63	0.148	0.00	0.17	0.17	2.60	(0.02)	0.060
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	552.00	1370.62	0.403	0.00	0.67	0.67	10.09	(0.02)	0.073
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-**	**A5153**	424.00	1834.73	0.231	0.00	0.30	0.30	4.50	(0.02)	0.043

	bell	Bridge									
4	Eastern Dumb-bell	A55 S/B Off-slip	301.00	1021.45	0.295	0.00	0.42	0.42	6.25	(0.02)	0.083
4	Western Dumb-bell	A5153 Bridge	362.00	2098.92	0.172	0.00	0.21	0.21	3.12	(0.02)	0.035
4	Western Dumb-bell	A55 N/B Off-slip	324.00	1040.54	0.311	0.00	0.45	0.45	6.77	(0.02)	0.084
4	Western Dumb-bell	A5153 West	175.00	1182.63	0.148	0.00	0.17	0.17	2.60	(0.02)	0.060
4	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D10 - Base+Com+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, AM	Base+Com+Dev 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			
2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	A5153 East	None
Eastern Dumb-bell	A55 S/B On-slip	None
Eastern Dumb-bell	A5153 Bridge	None
Eastern Dumb-bell	A55 S/B Off-slip	None
Western Dumb-bell	A5153 Bridge	None
Western Dumb-bell	A55 N/B Off-slip	None
Western Dumb-bell	A5153 West	None
Western Dumb-bell	A55 N/B On-slip	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622

Western Dumb-bell	**A5153 West**		((calculated))	((calculated))	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	538.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	259.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	624.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	421.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	624.00	624.00	N/A	N/A
1	Western Dumb-bell	A5153 West	421.00	421.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	624.00	624.00	N/A	N/A
2	Western Dumb-bell	A5153 West	421.00	421.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	259.00	259.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	624.00	624.00	N/A	N/A
3	Western Dumb-bell	A5153 West	421.00	421.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	538.00	538.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A

4	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	259.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B Off-slip**	624.00	624.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 West**	421.00	421.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	117.000	421.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	336.000	236.000	0.000	0.000
	4	210.000	0.000	49.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.22	0.78	0.00
	2	0.25	0.25	0.25	0.25
	3	0.59	0.41	0.00	0.00
	4	0.81	0.00	0.19	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	344.000	126.000

	2	166.000	0.000	458.000	0.000
	3	406.000	0.000	0.000	15.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.73	0.27
	2	0.27	0.00	0.73	0.00
	3	0.96	0.00	0.00	0.04
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.44	0.09	0.78	A	538.00	538.00	46.47	0.09	0.77	46.49	0.09	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)								only)	
Eastern Dumb-bell	**A5153 Bridge**	0.31	0.05	0.45	A	571.06	571.06	26.88	0.05	0.45	26.88	0.05	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.28	0.09	0.38	A	259.00	259.00	22.58	0.09	0.38	22.58	0.09	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.22	0.04	0.29	A	469.31	469.31	17.17	0.04	0.29	17.17	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.64	0.17	1.74	B	624.00	624.00	101.16	0.16	1.69	101.25	0.16	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.33	0.07	0.49	A	421.00	421.00	29.29	0.07	0.49	29.30	0.07	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	534.89	541.56	282.46	0.00	1223.13	903.69	0.440	0.00	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	350.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	568.31	142.08	566.53	467.28	0.00	0.00	1834.73	1615.14	0.310	0.00	0.45
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	257.49	0.00	566.53	0.00	940.66	221.42	0.275	0.00	0.38
Western Dumb-bell	**A5153 Bridge**	467.28	116.82	466.14	568.31	0.00	0.00	2098.92	1931.54	0.223	0.00	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	617.24	0.00	466.14	0.00	982.41	77.67	0.635	0.00	1.69
Western Dumb-bell	**A5153 West**	421.00	105.25	419.04	794.21	289.17	0.00	1275.06	1079.21	0.330	0.00	0.49
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	139.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	537.98	545.95	284.97	0.00	1221.63	903.69	0.440	0.78	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	352.97	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	571.96	142.99	571.94	469.98	0.00	0.00	1834.73	1615.14	0.312	0.45	0.45

Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	258.99	0.00	571.94	0.00	937.59	221.42	0.276	0.38	0.38
Western Dumb-bell	**A5153 Bridge**	469.98	117.50	469.97	571.96	0.00	0.00	2098.92	1931.54	0.224	0.29	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	623.87	0.00	469.97	0.00	980.27	77.67	0.637	1.69	1.72
Western Dumb-bell	**A5153 West**	421.00	105.25	420.99	801.88	291.96	0.00	1273.39	1079.21	0.331	0.49	0.49
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	140.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	537.99	545.99	284.99	0.00	1221.62	903.69	0.440	0.78	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	352.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	571.99	143.00	571.98	469.99	0.00	0.00	1834.73	1615.14	0.312	0.45	0.45
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	571.98	0.00	937.56	221.42	0.276	0.38	0.38
Western Dumb-bell	**A5153 Bridge**	469.99	117.50	469.99	571.99	0.00	0.00	2098.92	1931.54	0.224	0.29	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	623.96	0.00	469.99	0.00	980.26	77.67	0.637	1.72	1.73
Western Dumb-bell	**A5153 West**	421.00	105.25	421.00	801.97	291.99	0.00	1273.37	1079.21	0.331	0.49	0.49
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	141.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	538.00	134.50	538.00	545.99	285.00	0.00	1221.61	903.69	0.440	0.78	0.78
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	353.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	571.99	143.00	571.99	470.00	0.00	0.00	1834.73	1615.14	0.312	0.45	0.45
Eastern Dumb-bell	**A55 S/B Off-slip**	259.00	64.75	259.00	0.00	571.99	0.00	937.56	221.42	0.276	0.38	0.38
Western Dumb-bell	**A5153 Bridge**	470.00	117.50	470.00	571.99	0.00	0.00	2098.92	1931.54	0.224	0.29	0.29
Western Dumb-bell	**A55 N/B Off-slip**	624.00	156.00	623.98	0.00	470.00	0.00	980.26	77.67	0.637	1.73	1.74
Western Dumb-bell	**A5153 West**	421.00	105.25	421.00	801.98	291.99	0.00	1273.37	1079.21	0.331	0.49	0.49

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	141.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.24	0.75	0.087	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.57	0.44	0.047	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.48	0.37	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.22	0.28	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	23.54	1.57	0.161	A	A
Western Dumb-bell	**A5153 West**	7.15	0.48	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.71	0.78	0.088	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.75	0.45	0.048	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.68	0.38	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.31	0.29	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	25.66	1.71	0.168	B	B
Western Dumb-bell	**A5153 West**	7.37	0.49	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.75	0.78	0.088	A	A

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.78	0.45	0.048	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.70	0.38	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.32	0.29	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	25.93	1.73	0.168	B	B
Western Dumb-bell	**A5153 West**	7.39	0.49	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.77	0.78	0.088	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	6.78	0.45	0.048	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	5.71	0.38	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	4.32	0.29	0.037	A	A
Western Dumb-bell	**A55 N/B Off-slip**	26.03	1.74	0.168	B	B
Western Dumb-bell	**A5153 West**	7.39	0.49	0.070	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	538.00	1223.13	0.440	0.00	0.00	0.78	11.24	(0.02)	0.087
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	568.31	1834.73	0.310	0.00	0.00	0.45	6.57	(0.02)	0.047
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	940.66	0.275	0.00	0.00	0.38	5.48	(0.02)	0.088
1	**Western Dumb-bell**	**A5153 Bridge**	467.28	2098.92	0.223	0.00	0.00	0.29	4.22	(0.02)	0.037
1	**Western Dumb-bell**	**A55 N/B Off-slip**	624.00	982.41	0.635	0.00	0.00	1.69	23.54	(0.02)	0.161
1	**Western Dumb-bell**	**A5153 West**	421.00	1275.06	0.330	0.00	0.00	0.49	7.15	(0.02)	0.070
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	538.00	1221.63	0.440	0.00	0.78	0.78	11.71	(0.02)	0.088
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Eastern Dumb-bell**	**A5153 Bridge**	571.96	1834.73	0.312	0.00	0.45	0.45	6.75	(0.02)	0.048
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	937.59	0.276	0.00	0.38	0.38	5.68	(0.02)	0.088
2	**Western Dumb-bell**	**A5153 Bridge**	469.98	2098.92	0.224	0.00	0.29	0.29	4.31	(0.02)	0.037
2	**Western Dumb-bell**	**A55 N/B Off-slip**	624.00	980.27	0.637	0.00	1.69	1.72	25.66	(0.02)	0.168
2	**Western Dumb-bell**	**A5153 West**	421.00	1273.39	0.331	0.00	0.49	0.49	7.37	(0.02)	0.070
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	538.00	1221.62	0.440	0.00	0.78	0.78	11.75	(0.02)	0.088
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	571.99	1834.73	0.312	0.00	0.45	0.45	6.78	(0.02)	0.048
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	937.56	0.276	0.00	0.38	0.38	5.70	(0.02)	0.088
3	**Western Dumb-bell**	**A5153 Bridge**	469.99	2098.92	0.224	0.00	0.29	0.29	4.32	(0.02)	0.037
3	**Western Dumb-bell**	**A55 N/B Off-slip**	624.00	980.26	0.637	0.00	1.72	1.73	25.93	(0.02)	0.168
3	**Western Dumb-bell**	**A5153 West**	421.00	1273.37	0.331	0.00	0.49	0.49	7.39	(0.02)	0.070
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	538.00	1221.61	0.440	0.00	0.78	0.78	11.77	(0.02)	0.088
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	571.99	1834.73	0.312	0.00	0.45	0.45	6.78	(0.02)	0.048
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	259.00	937.56	0.276	0.00	0.38	0.38	5.71	(0.02)	0.088

4	**Western Dumb-bell**	**A5153 Bridge**	470.00	2098.92	0.224	0.00	0.29	0.29	4.32	(0.02)	0.037
4	**Western Dumb-bell**	**A55 N/B Off-slip**	624.00	980.26	0.637	0.00	1.73	1.74	26.03	(0.02)	0.168
4	**Western Dumb-bell**	**A5153 West**	421.00	1273.37	0.331	0.00	0.49	0.49	7.39	(0.02)	0.070
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D11 - Base+Com+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, PM	Base+Com+Dev 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			

2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	A5153 East	None
Eastern Dumb-bell	A55 S/B On-slip	None
Eastern Dumb-bell	A5153 Bridge	None
Eastern Dumb-bell	A55 S/B Off-slip	None
Western Dumb-bell	A5153 Bridge	None
Western Dumb-bell	A55 N/B Off-slip	None
Western Dumb-bell	A5153 West	None
Western Dumb-bell	A55 N/B On-slip	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	A5153 West		((calculated))	((calculated))	0.599	1448.264

Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	711.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	396.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	559.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	907.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	711.00	711.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	559.00	559.00	N/A	N/A
1	Western Dumb-bell	A5153 West	907.00	907.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	711.00	711.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	559.00	559.00	N/A	N/A
2	Western Dumb-bell	A5153 West	907.00	907.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	711.00	711.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	396.00	396.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	559.00	559.00	N/A	N/A
3	Western Dumb-bell	A5153 West	907.00	907.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	711.00	711.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A

4	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	396.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	559.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 West**	907.00	907.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	204.000	507.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	571.000	468.000	0.000	0.000
	4	361.000	0.000	35.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.29	0.71	0.00
	2	0.25	0.25	0.25	0.25
	3	0.55	0.45	0.00	0.00
	4	0.91	0.00	0.09	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	348.000	194.000

	2	208.000	0.000	351.000	0.000
	3	831.000	0.000	0.000	76.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.64	0.36
	2	0.37	0.00	0.63	0.00
	3	0.92	0.00	0.00	0.08
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.65	0.16	1.85	A	711.00	711.00	107.67	0.15	1.79	107.76	0.15	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)								only)	
Eastern Dumb-bell	**A5153 Bridge**	0.57	0.08	1.30	A	1035.73	1035.73	76.33	0.07	1.27	76.36	0.07	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.59	0.22	1.42	B	396.00	396.00	81.45	0.21	1.36	81.54	0.21	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.26	0.04	0.35	A	540.55	540.55	20.66	0.04	0.34	20.67	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.59	0.16	1.46	A	559.00	559.00	84.98	0.15	1.42	85.05	0.15	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.75	0.20	2.98	B	907.00	907.00	170.94	0.19	2.85	171.16	0.19	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	711.00	177.75	703.83	917.47	494.62	0.00	1096.68	879.92	0.648	0.00	1.79
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	662.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1026.46	256.61	1021.44	536.42	0.00	0.00	1834.73	1594.00	0.559	0.00	1.26
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	390.65	0.00	1021.44	0.00	682.80	221.39	0.580	0.00	1.34
Western Dumb-bell	**A5153 Bridge**	536.42	134.10	535.05	1026.46	0.00	0.00	2098.92	1899.04	0.256	0.00	0.34
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	553.33	0.00	535.05	0.00	943.94	78.98	0.592	0.00	1.42
Western Dumb-bell	**A5153 West**	907.00	226.75	895.61	690.98	397.40	0.00	1210.23	967.97	0.749	0.00	2.85
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	266.56	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	711.00	177.75	710.83	931.50	502.75	0.00	1091.83	879.92	0.651	1.79	1.83
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	671.72	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1038.63	259.66	1038.49	541.86	0.00	0.00	1834.73	1594.00	0.566	1.26	1.29

Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.76	0.00	1038.49	0.00	673.13	221.39	0.588	1.34	1.40
Western Dumb-bell	**A5153 Bridge**	541.86	135.46	541.84	1038.63	0.00	0.00	2098.92	1899.04	0.258	0.34	0.35
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	558.89	0.00	541.84	0.00	940.15	78.98	0.595	1.42	1.45
Western Dumb-bell	**A5153 West**	907.00	226.75	906.65	698.82	401.90	0.00	1207.54	967.97	0.751	2.85	2.93
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.91	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	711.00	177.75	710.95	931.88	502.93	0.00	1091.72	879.92	0.651	1.83	1.85
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	671.92	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1038.88	259.72	1038.86	541.96	0.00	0.00	1834.73	1594.00	0.566	1.29	1.30
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.95	0.00	1038.86	0.00	672.92	221.39	0.588	1.40	1.41
Western Dumb-bell	**A5153 Bridge**	541.96	135.49	541.96	1038.88	0.00	0.00	2098.92	1899.04	0.258	0.35	0.35
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	558.97	0.00	541.96	0.00	940.08	78.98	0.595	1.45	1.45
Western Dumb-bell	**A5153 West**	907.00	226.75	906.89	698.95	401.97	0.00	1207.49	967.97	0.751	2.93	2.96
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	711.00	177.75	710.98	931.94	502.97	0.00	1091.70	879.92	0.651	1.85	1.85
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	671.96	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	1038.94	259.74	1038.93	541.98	0.00	0.00	1834.73	1594.00	0.566	1.30	1.30
Eastern Dumb-bell	**A55 S/B Off-slip**	396.00	99.00	395.98	0.00	1038.93	0.00	672.88	221.39	0.589	1.41	1.42
Western Dumb-bell	**A5153 Bridge**	541.98	135.50	541.98	1038.94	0.00	0.00	2098.92	1899.04	0.258	0.35	0.35
Western Dumb-bell	**A55 N/B Off-slip**	559.00	139.75	558.99	0.00	541.98	0.00	940.07	78.98	0.595	1.45	1.46
Western Dumb-bell	**A5153 West**	907.00	226.75	906.94	698.98	401.99	0.00	1207.48	967.97	0.751	2.96	2.98

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	269.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	25.01	1.67	0.150	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	18.14	1.21	0.073	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	18.53	1.24	0.202	B	B
Western Dumb-bell	**A5153 Bridge**	5.05	0.34	0.038	A	A
Western Dumb-bell	**A55 N/B Off-slip**	19.89	1.33	0.152	A	A
Western Dumb-bell	**A5153 West**	38.59	2.57	0.185	B	B
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	27.29	1.82	0.157	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	19.24	1.28	0.075	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	20.65	1.38	0.216	B	B
Western Dumb-bell	**A5153 Bridge**	5.19	0.35	0.039	A	A
Western Dumb-bell	**A55 N/B Off-slip**	21.52	1.43	0.157	A	A
Western Dumb-bell	**A5153 West**	43.52	2.90	0.199	B	B
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	27.63	1.84	0.157	A	A

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	19.45	1.30	0.075	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	21.07	1.40	0.216	B	B
Western Dumb-bell	**A5153 Bridge**	5.21	0.35	0.039	A	A
Western Dumb-bell	**A55 N/B Off-slip**	21.74	1.45	0.157	A	A
Western Dumb-bell	**A5153 West**	44.27	2.95	0.199	B	B
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	27.75	1.85	0.158	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	19.50	1.30	0.075	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	21.20	1.41	0.217	B	B
Western Dumb-bell	**A5153 Bridge**	5.21	0.35	0.039	A	A
Western Dumb-bell	**A55 N/B Off-slip**	21.83	1.46	0.157	A	A
Western Dumb-bell	**A5153 West**	44.57	2.97	0.199	B	B
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	711.00	1096.68	0.648	0.00	0.00	1.79	25.01	(0.02)	0.150
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	1026.46	1834.73	0.559	0.00	0.00	1.26	18.14	(0.02)	0.073
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	682.80	0.580	0.00	0.00	1.34	18.53	(0.02)	0.202
1	**Western Dumb-bell**	**A5153 Bridge**	536.42	2098.92	0.256	0.00	0.00	0.34	5.05	(0.02)	0.038
1	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	943.94	0.592	0.00	0.00	1.42	19.89	(0.02)	0.152
1	**Western Dumb-bell**	**A5153 West**	907.00	1210.23	0.749	0.00	0.00	2.85	38.59	(0.02)	0.185
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	711.00	1091.83	0.651	0.00	1.79	1.83	27.29	(0.02)	0.157
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Eastern Dumb-bell**	**A5153 Bridge**	1038.63	1834.73	0.566	0.00	1.26	1.29	19.24	(0.02)	0.075
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	673.13	0.588	0.00	1.34	1.40	20.65	(0.02)	0.216
2	**Western Dumb-bell**	**A5153 Bridge**	541.86	2098.92	0.258	0.00	0.34	0.35	5.19	(0.02)	0.039
2	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	940.15	0.595	0.00	1.42	1.45	21.52	(0.02)	0.157
2	**Western Dumb-bell**	**A5153 West**	907.00	1207.54	0.751	0.00	2.85	2.93	43.52	(0.02)	0.199
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	711.00	1091.72	0.651	0.00	1.83	1.85	27.63	(0.02)	0.157
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	1038.88	1834.73	0.566	0.00	1.29	1.30	19.45	(0.02)	0.075
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	672.92	0.588	0.00	1.40	1.41	21.07	(0.02)	0.216
3	**Western Dumb-bell**	**A5153 Bridge**	541.96	2098.92	0.258	0.00	0.35	0.35	5.21	(0.02)	0.039
3	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	940.08	0.595	0.00	1.45	1.45	21.74	(0.02)	0.157
3	**Western Dumb-bell**	**A5153 West**	907.00	1207.49	0.751	0.00	2.93	2.96	44.27	(0.02)	0.199
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	711.00	1091.70	0.651	0.00	1.85	1.85	27.75	(0.02)	0.158
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	1038.94	1834.73	0.566	0.00	1.30	1.30	19.50	(0.02)	0.075
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	396.00	672.88	0.589	0.00	1.41	1.42	21.20	(0.02)	0.217

4	**Western Dumb-bell**	**A5153 Bridge**	541.98	2098.92	0.258	0.00	0.35	0.35	5.21	(0.02)	0.039
4	**Western Dumb-bell**	**A55 N/B Off-slip**	559.00	940.07	0.595	0.00	1.45	1.46	21.83	(0.02)	0.157
4	**Western Dumb-bell**	**A5153 West**	907.00	1207.48	0.751	0.00	2.96	2.98	44.57	(0.02)	0.199
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D12 - Base+Com+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, Sat	Base+Com+Dev 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			

2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	A5153 East	None
Eastern Dumb-bell	A55 S/B On-slip	None
Eastern Dumb-bell	A5153 Bridge	None
Eastern Dumb-bell	A55 S/B Off-slip	None
Western Dumb-bell	A5153 Bridge	None
Western Dumb-bell	A55 N/B Off-slip	None
Western Dumb-bell	A5153 West	None
Western Dumb-bell	A55 N/B On-slip	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	A5153 West		((calculated))	((calculated))	0.599	1448.264

Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	579.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	301.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	391.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	251.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
1	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
2	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
3	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A

4	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	391.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 West**	251.00	251.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	197.000	382.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	419.000	81.000	0.000	0.000
	4	294.000	0.000	7.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.84	0.16	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	202.000	188.000

	2	256.000	0.000	135.000	0.000
	3	244.000	0.000	0.000	7.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.52	0.48
	2	0.65	0.00	0.35	0.00
	3	0.97	0.00	0.00	0.03
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.43	0.08	0.76	A	579.00	579.00	45.08	0.08	0.75	45.09	0.08	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)								only)	
Eastern Dumb-bell	**A5153 Bridge**	0.27	0.04	0.37	A	499.34	499.34	22.26	0.04	0.37	22.26	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.31	0.09	0.44	A	301.00	301.00	26.28	0.09	0.44	26.29	0.09	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.19	0.04	0.23	A	388.49	388.49	13.55	0.03	0.23	13.55	0.03	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.38	0.09	0.61	A	391.00	391.00	36.39	0.09	0.61	36.40	0.09	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.21	0.06	0.27	A	251.00	251.00	16.01	0.06	0.27	16.01	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	575.98	707.84	87.29	0.00	1339.45	1167.94	0.432	0.00	0.75
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	276.31	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	497.37	124.34	495.88	386.97	0.00	0.00	1834.73	1620.66	0.271	0.00	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	299.24	0.00	495.88	0.00	980.70	221.43	0.307	0.00	0.44
Western Dumb-bell	**A5153 Bridge**	386.97	96.74	386.07	497.37	0.00	0.00	2098.92	1882.57	0.184	0.00	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	388.57	0.00	386.07	0.00	1027.11	79.64	0.381	0.00	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	249.93	334.12	440.51	0.00	1184.41	813.34	0.212	0.00	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	193.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	578.98	712.96	88.00	0.00	1339.03	1167.94	0.432	0.75	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	277.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	499.98	125.00	499.97	388.99	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37

Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	300.99	0.00	499.97	0.00	978.38	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	388.99	97.25	388.98	499.98	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	390.98	0.00	388.98	0.00	1025.48	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.47	443.50	0.00	1182.62	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	712.99	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	499.99	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	499.99	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.51	0.00	1182.61	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	713.00	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	500.00	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	500.00	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.52	0.00	1182.61	813.34	0.212	0.27	0.27

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.95	0.73	0.078	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.46	0.36	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.38	0.43	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	3.33	0.22	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.81	0.59	0.094	A	A
Western Dumb-bell	**A5153 West**	3.92	0.26	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.35	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.59	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.62	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.40	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.17	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.02	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.38	0.76	0.079	A	A

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.61	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.64	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.41	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.20	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.03	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.40	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.61	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.65	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.41	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.22	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.03	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.45	0.432	0.00	0.00	0.75	10.95	(0.02)	0.078
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	497.37	1834.73	0.271	0.00	0.00	0.37	5.46	(0.02)	0.045
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	980.70	0.307	0.00	0.00	0.44	6.38	(0.02)	0.088
1	**Western Dumb-bell**	**A5153 Bridge**	386.97	2098.92	0.184	0.00	0.00	0.23	3.33	(0.02)	0.035
1	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1027.11	0.381	0.00	0.00	0.61	8.81	(0.02)	0.094
1	**Western Dumb-bell**	**A5153 West**	251.00	1184.41	0.212	0.00	0.00	0.27	3.92	(0.02)	0.064
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.75	0.76	11.35	(0.02)	0.079
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Eastern Dumb-bell**	**A5153 Bridge**	499.98	1834.73	0.273	0.00	0.37	0.37	5.59	(0.02)	0.045
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.38	0.308	0.00	0.44	0.44	6.62	(0.02)	0.089
2	**Western Dumb-bell**	**A5153 Bridge**	388.99	2098.92	0.185	0.00	0.23	0.23	3.40	(0.02)	0.035
2	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.48	0.381	0.00	0.61	0.61	9.17	(0.02)	0.095
2	**Western Dumb-bell**	**A5153 West**	251.00	1182.62	0.212	0.00	0.27	0.27	4.02	(0.02)	0.064
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.76	0.76	11.38	(0.02)	0.079
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.37	0.308	0.00	0.44	0.44	6.64	(0.02)	0.089
3	**Western Dumb-bell**	**A5153 Bridge**	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
3	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.47	0.381	0.00	0.61	0.61	9.20	(0.02)	0.095
3	**Western Dumb-bell**	**A5153 West**	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.76	0.76	11.40	(0.02)	0.079
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.37	0.308	0.00	0.44	0.44	6.65	(0.02)	0.089

4	**Western Dumb-bell**	**A5153 Bridge**	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
4	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.47	0.381	0.00	0.61	0.61	9.22	(0.02)	0.095
4	**Western Dumb-bell**	**A5153 West**	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D13 - Base+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, AM	Base+Dev 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			

2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	A5153 East	None
Eastern Dumb-bell	A55 S/B On-slip	None
Eastern Dumb-bell	A5153 Bridge	None
Eastern Dumb-bell	A55 S/B Off-slip	None
Western Dumb-bell	A5153 Bridge	None
Western Dumb-bell	A55 N/B Off-slip	None
Western Dumb-bell	A5153 West	None
Western Dumb-bell	A55 N/B On-slip	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	A5153 West		((calculated))	((calculated))	0.599	1448.264

Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	343.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	213.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	291.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	280.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	343.00	343.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	213.00	213.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	291.00	291.00	N/A	N/A
1	Western Dumb-bell	A5153 West	280.00	280.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	343.00	343.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	213.00	213.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	291.00	291.00	N/A	N/A
2	Western Dumb-bell	A5153 West	280.00	280.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	343.00	343.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	213.00	213.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	291.00	291.00	N/A	N/A
3	Western Dumb-bell	A5153 West	280.00	280.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	343.00	343.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A

4	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	213.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	291.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 West**	280.00	280.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	117.000	226.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	307.000	139.000	0.000	0.000
	4	210.000	0.000	3.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.69	0.31	0.00	0.00
	4	0.99	0.00	0.01	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
From		**1**	**2**	**3**	**4**
	1	0.000	0.000	103.000	126.000

	2	166.000	0.000	125.000	0.000
	3	279.000	0.000	0.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.45	0.55
	2	0.57	0.00	0.43	0.00
	3	1.00	0.00	0.00	0.00
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.26	0.06	0.36	A	343.00	343.00	21.15	0.06	0.35	21.15	0.06	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)								only)	
Eastern Dumb-bell	**A5153 Bridge**	0.24	0.04	0.32	A	444.52	444.52	19.05	0.04	0.32	19.05	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.21	0.08	0.27	A	213.00	213.00	15.87	0.07	0.26	15.87	0.07	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.11	0.03	0.12	A	228.76	228.76	7.30	0.03	0.12	7.30	0.03	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.26	0.07	0.35	A	291.00	291.00	20.97	0.07	0.35	20.97	0.07	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.22	0.06	0.28	A	280.00	280.00	16.76	0.06	0.28	16.76	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	343.00	85.75	341.59	513.07	140.68	0.00	1307.63	1022.27	0.262	0.00	0.35
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	254.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	443.08	110.77	441.81	228.05	0.00	0.00	1834.73	1600.15	0.242	0.00	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	213.00	53.25	211.94	0.00	441.81	0.00	1011.35	221.40	0.211	0.00	0.27
Western Dumb-bell	**A5153 Bridge**	228.05	57.01	227.57	443.08	0.00	0.00	2098.92	1869.43	0.109	0.00	0.12
Western Dumb-bell	**A55 N/B Off-slip**	291.00	72.75	289.60	0.00	227.57	0.00	1115.59	80.17	0.261	0.00	0.35
Western Dumb-bell	**A5153 West**	280.00	70.00	278.88	226.75	290.41	0.00	1274.32	741.00	0.220	0.00	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	126.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	343.00	85.75	343.00	516.30	141.68	0.00	1307.03	1022.27	0.262	0.35	0.35
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	255.68	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	444.99	111.25	444.98	229.00	0.00	0.00	1834.73	1600.15	0.243	0.32	0.32

Eastern Dumb-bell	**A55 S/B Off-slip**	213.00	53.25	212.99	0.00	444.98	0.00	1009.55	221.40	0.211	0.27	0.27
Western Dumb-bell	**A5153 Bridge**	229.00	57.25	228.99	444.99	0.00	0.00	2098.92	1869.43	0.109	0.12	0.12
Western Dumb-bell	**A55 N/B Off-slip**	291.00	72.75	290.99	0.00	228.99	0.00	1114.79	80.17	0.261	0.35	0.35
Western Dumb-bell	**A5153 West**	280.00	70.00	280.00	228.00	291.99	0.00	1273.37	741.00	0.220	0.28	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	127.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	343.00	85.75	343.00	516.31	141.69	0.00	1307.03	1022.27	0.262	0.35	0.36
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	255.69	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	445.00	111.25	445.00	229.00	0.00	0.00	1834.73	1600.15	0.243	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	213.00	53.25	213.00	0.00	445.00	0.00	1009.55	221.40	0.211	0.27	0.27
Western Dumb-bell	**A5153 Bridge**	229.00	57.25	229.00	445.00	0.00	0.00	2098.92	1869.43	0.109	0.12	0.12
Western Dumb-bell	**A55 N/B Off-slip**	291.00	72.75	291.00	0.00	229.00	0.00	1114.79	80.17	0.261	0.35	0.35
Western Dumb-bell	**A5153 West**	280.00	70.00	280.00	228.00	292.00	0.00	1273.37	741.00	0.220	0.28	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	127.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	343.00	85.75	343.00	516.31	141.69	0.00	1307.03	1022.27	0.262	0.36	0.36
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	255.69	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	445.00	111.25	445.00	229.00	0.00	0.00	1834.73	1600.15	0.243	0.32	0.32
Eastern Dumb-bell	**A55 S/B Off-slip**	213.00	53.25	213.00	0.00	445.00	0.00	1009.54	221.40	0.211	0.27	0.27
Western Dumb-bell	**A5153 Bridge**	229.00	57.25	229.00	445.00	0.00	0.00	2098.92	1869.43	0.109	0.12	0.12
Western Dumb-bell	**A55 N/B Off-slip**	291.00	72.75	291.00	0.00	229.00	0.00	1114.79	80.17	0.261	0.35	0.35
Western Dumb-bell	**A5153 West**	280.00	70.00	280.00	228.00	292.00	0.00	1273.36	741.00	0.220	0.28	0.28

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	127.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	5.18	0.35	0.062	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.68	0.31	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	3.88	0.26	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.80	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.12	0.34	0.073	A	A
Western Dumb-bell	**A5153 West**	4.11	0.27	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	5.31	0.35	0.062	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.78	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	3.99	0.27	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.83	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.27	0.35	0.073	A	A
Western Dumb-bell	**A5153 West**	4.21	0.28	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	5.32	0.35	0.062	A	A

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.79	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	0.27	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.83	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.28	0.35	0.073	A	A
Western Dumb-bell	**A5153 West**	4.22	0.28	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	5.33	0.36	0.062	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.80	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	0.27	0.075	A	A
Western Dumb-bell	**A5153 Bridge**	1.84	0.12	0.032	A	A
Western Dumb-bell	**A55 N/B Off-slip**	5.29	0.35	0.073	A	A
Western Dumb-bell	**A5153 West**	4.22	0.28	0.060	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.63	0.262	0.00	0.00	0.35	5.18	(0.02)	0.062
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	443.08	1834.73	0.242	0.00	0.00	0.32	4.68	(0.02)	0.043
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1011.35	0.211	0.00	0.00	0.27	3.88	(0.02)	0.075
1	**Western Dumb-bell**	**A5153 Bridge**	228.05	2098.92	0.109	0.00	0.00	0.12	1.80	(0.02)	0.032
1	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	1115.59	0.261	0.00	0.00	0.35	5.12	(0.02)	0.073
1	**Western Dumb-bell**	**A5153 West**	280.00	1274.32	0.220	0.00	0.00	0.28	4.11	(0.02)	0.060
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.03	0.262	0.00	0.35	0.35	5.31	(0.02)	0.062
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Eastern Dumb-bell**	**A5153 Bridge**	444.99	1834.73	0.243	0.00	0.32	0.32	4.78	(0.02)	0.043
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1009.55	0.211	0.00	0.27	0.27	3.99	(0.02)	0.075
2	**Western Dumb-bell**	**A5153 Bridge**	229.00	2098.92	0.109	0.00	0.12	0.12	1.83	(0.02)	0.032
2	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	1114.79	0.261	0.00	0.35	0.35	5.27	(0.02)	0.073
2	**Western Dumb-bell**	**A5153 West**	280.00	1273.37	0.220	0.00	0.28	0.28	4.21	(0.02)	0.060
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.03	0.262	0.00	0.35	0.36	5.32	(0.02)	0.062
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	445.00	1834.73	0.243	0.00	0.32	0.32	4.79	(0.02)	0.043
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1009.55	0.211	0.00	0.27	0.27	4.00	(0.02)	0.075
3	**Western Dumb-bell**	**A5153 Bridge**	229.00	2098.92	0.109	0.00	0.12	0.12	1.83	(0.02)	0.032
3	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	1114.79	0.261	0.00	0.35	0.35	5.28	(0.02)	0.073
3	**Western Dumb-bell**	**A5153 West**	280.00	1273.37	0.220	0.00	0.28	0.28	4.22	(0.02)	0.060
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	343.00	1307.03	0.262	0.00	0.36	0.36	5.33	(0.02)	0.062
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	445.00	1834.73	0.243	0.00	0.32	0.32	4.80	(0.02)	0.043
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	213.00	1009.54	0.211	0.00	0.27	0.27	4.00	(0.02)	0.075

4	**Western Dumb-bell**	**A5153 Bridge**	229.00	2098.92	0.109	0.00	0.12	0.12	1.84	(0.02)	0.032
4	**Western Dumb-bell**	**A55 N/B Off-slip**	291.00	1114.79	0.261	0.00	0.35	0.35	5.29	(0.02)	0.073
4	**Western Dumb-bell**	**A5153 West**	280.00	1273.36	0.220	0.00	0.28	0.28	4.22	(0.02)	0.060
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D14 - Base+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, PM	Base+Dev 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			

2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	A5153 East	None
Eastern Dumb-bell	A55 S/B On-slip	None
Eastern Dumb-bell	A5153 Bridge	None
Eastern Dumb-bell	A55 S/B Off-slip	None
Western Dumb-bell	A5153 Bridge	None
Western Dumb-bell	A55 N/B Off-slip	None
Western Dumb-bell	A5153 West	None
Western Dumb-bell	A55 N/B On-slip	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	A5153 West		((calculated))	((calculated))	0.599	1448.264

Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	601.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	370.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	372.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	261.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	370.00	370.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	372.00	372.00	N/A	N/A
1	Western Dumb-bell	A5153 West	261.00	261.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	370.00	370.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	372.00	372.00	N/A	N/A
2	Western Dumb-bell	A5153 West	261.00	261.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	370.00	370.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	372.00	372.00	N/A	N/A
3	Western Dumb-bell	A5153 West	261.00	261.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	601.00	601.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A

4	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	370.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	372.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 West**	261.00	261.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	204.000	397.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	377.000	80.000	0.000	0.000
	4	361.000	0.000	9.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.82	0.18	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	213.000	194.000

	2	208.000	0.000	164.000	0.000
	3	249.000	0.000	0.000	12.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.52	0.48
	2	0.56	0.00	0.44	0.00
	3	0.95	0.00	0.00	0.05
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.45	0.08	0.81	A	601.00	601.00	48.19	0.08	0.80	48.21	0.08	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)								only)	
Eastern Dumb-bell	**A5153 Bridge**	0.25	0.04	0.33	A	456.42	456.42	19.72	0.04	0.33	19.72	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.37	0.09	0.58	A	370.00	370.00	34.53	0.09	0.58	34.54	0.09	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.19	0.04	0.24	A	405.45	405.45	14.28	0.04	0.24	14.28	0.04	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.37	0.09	0.58	A	372.00	372.00	34.13	0.09	0.57	34.14	0.09	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.22	0.06	0.28	A	261.00	261.00	16.38	0.06	0.27	16.39	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	597.77	732.75	88.31	0.00	1338.85	1154.89	0.449	0.00	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	282.27	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	454.68	113.67	453.37	403.81	0.00	0.00	1834.73	1619.12	0.248	0.00	0.33
Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	367.69	0.00	453.37	0.00	1004.80	221.43	0.368	0.00	0.58
Western Dumb-bell	**A5153 Bridge**	403.81	100.95	402.86	454.68	0.00	0.00	2098.92	1879.86	0.192	0.00	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	369.72	0.00	402.86	0.00	1017.73	79.75	0.366	0.00	0.57
Western Dumb-bell	**A5153 West**	261.00	65.25	259.91	373.83	398.75	0.00	1209.42	823.97	0.216	0.00	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	203.98	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	600.98	737.96	89.00	0.00	1338.44	1154.89	0.449	0.81	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	283.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	456.99	114.25	456.98	405.99	0.00	0.00	1834.73	1619.12	0.249	0.33	0.33

Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	369.98	0.00	456.98	0.00	1002.75	221.43	0.369	0.58	0.58
Western Dumb-bell	**A5153 Bridge**	405.99	101.50	405.98	456.99	0.00	0.00	2098.92	1879.86	0.193	0.24	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	371.98	0.00	405.98	0.00	1015.99	79.75	0.366	0.57	0.57
Western Dumb-bell	**A5153 West**	261.00	65.25	261.00	376.46	401.51	0.00	1207.77	823.97	0.216	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	205.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	600.99	737.99	89.00	0.00	1338.44	1154.89	0.449	0.81	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	284.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	457.00	114.25	456.99	406.00	0.00	0.00	1834.73	1619.12	0.249	0.33	0.33
Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	370.00	0.00	456.99	0.00	1002.74	221.43	0.369	0.58	0.58
Western Dumb-bell	**A5153 Bridge**	406.00	101.50	406.00	457.00	0.00	0.00	2098.92	1879.86	0.193	0.24	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	372.00	0.00	406.00	0.00	1015.98	79.75	0.366	0.57	0.58
Western Dumb-bell	**A5153 West**	261.00	65.25	261.00	376.47	401.52	0.00	1207.77	823.97	0.216	0.27	0.28
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	205.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	601.00	150.25	601.00	738.00	89.00	0.00	1338.44	1154.89	0.449	0.81	0.81
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	284.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	457.00	114.25	457.00	406.00	0.00	0.00	1834.73	1619.12	0.249	0.33	0.33
Eastern Dumb-bell	**A55 S/B Off-slip**	370.00	92.50	370.00	0.00	457.00	0.00	1002.74	221.43	0.369	0.58	0.58
Western Dumb-bell	**A5153 Bridge**	406.00	101.50	406.00	457.00	0.00	0.00	2098.92	1879.86	0.193	0.24	0.24
Western Dumb-bell	**A55 N/B Off-slip**	372.00	93.00	372.00	0.00	406.00	0.00	1015.98	79.75	0.366	0.58	0.58
Western Dumb-bell	**A5153 West**	261.00	65.25	261.00	376.47	401.52	0.00	1207.76	823.97	0.216	0.28	0.28

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	205.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.69	0.78	0.081	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.84	0.32	0.043	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.36	0.56	0.094	A	A
Western Dumb-bell	**A5153 Bridge**	3.51	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.27	0.55	0.092	A	A
Western Dumb-bell	**A5153 West**	4.01	0.27	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	12.14	0.81	0.081	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.95	0.33	0.044	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.70	0.58	0.095	A	A
Western Dumb-bell	**A5153 Bridge**	3.58	0.24	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.60	0.57	0.093	A	A
Western Dumb-bell	**A5153 West**	4.12	0.27	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	12.18	0.81	0.081	A	A

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.96	0.33	0.044	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.73	0.58	0.095	A	A
Western Dumb-bell	**A5153 Bridge**	3.59	0.24	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.63	0.58	0.093	A	A
Western Dumb-bell	**A5153 West**	4.13	0.28	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	12.19	0.81	0.081	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	4.97	0.33	0.044	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	8.74	0.58	0.095	A	A
Western Dumb-bell	**A5153 Bridge**	3.59	0.24	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.64	0.58	0.093	A	A
Western Dumb-bell	**A5153 West**	4.13	0.28	0.063	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	601.00	1338.85	0.449	0.00	0.00	0.81	11.69	(0.02)	0.081
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	454.68	1834.73	0.248	0.00	0.00	0.33	4.84	(0.02)	0.043
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	1004.80	0.368	0.00	0.00	0.58	8.36	(0.02)	0.094
1	**Western Dumb-bell**	**A5153 Bridge**	403.81	2098.92	0.192	0.00	0.00	0.24	3.51	(0.02)	0.035
1	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	1017.73	0.366	0.00	0.00	0.57	8.27	(0.02)	0.092
1	**Western Dumb-bell**	**A5153 West**	261.00	1209.42	0.216	0.00	0.00	0.27	4.01	(0.02)	0.063
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	601.00	1338.44	0.449	0.00	0.81	0.81	12.14	(0.02)	0.081
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Eastern Dumb-bell**	**A5153 Bridge**	456.99	1834.73	0.249	0.00	0.33	0.33	4.95	(0.02)	0.044
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	1002.75	0.369	0.00	0.58	0.58	8.70	(0.02)	0.095
2	**Western Dumb-bell**	**A5153 Bridge**	405.99	2098.92	0.193	0.00	0.24	0.24	3.58	(0.02)	0.035
2	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	1015.99	0.366	0.00	0.57	0.57	8.60	(0.02)	0.093
2	**Western Dumb-bell**	**A5153 West**	261.00	1207.77	0.216	0.00	0.27	0.27	4.12	(0.02)	0.063
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	601.00	1338.44	0.449	0.00	0.81	0.81	12.18	(0.02)	0.081
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	457.00	1834.73	0.249	0.00	0.33	0.33	4.96	(0.02)	0.044
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	1002.74	0.369	0.00	0.58	0.58	8.73	(0.02)	0.095
3	**Western Dumb-bell**	**A5153 Bridge**	406.00	2098.92	0.193	0.00	0.24	0.24	3.59	(0.02)	0.035
3	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	1015.98	0.366	0.00	0.57	0.58	8.63	(0.02)	0.093
3	**Western Dumb-bell**	**A5153 West**	261.00	1207.77	0.216	0.00	0.27	0.28	4.13	(0.02)	0.063
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	601.00	1338.44	0.449	0.00	0.81	0.81	12.19	(0.02)	0.081
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	457.00	1834.73	0.249	0.00	0.33	0.33	4.97	(0.02)	0.044
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	370.00	1002.74	0.369	0.00	0.58	0.58	8.74	(0.02)	0.095

4	**Western Dumb-bell**	**A5153 Bridge**	406.00	2098.92	0.193	0.00	0.24	0.24	3.59	(0.02)	0.035
4	**Western Dumb-bell**	**A55 N/B Off-slip**	372.00	1015.98	0.366	0.00	0.58	0.58	8.64	(0.02)	0.093
4	**Western Dumb-bell**	**A5153 West**	261.00	1207.76	0.216	0.00	0.28	0.28	4.13	(0.02)	0.063
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

A1 - (Default Analysis Set) - D15 - Base+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, Sat	Base+Dev 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Eastern Dumb-bell	1,2,3,4	Standard			

2	2	Western Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153 East	
2	A55 S/B On-slip	
3	A5153 Bridge	
4	A55 S/B Off-slip	
1	A5153 Bridge	
2	A55 N/B Off-slip	
3	A5153 West	
4	A55 N/B On-slip	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Eastern Dumb-bell	**A5153 East**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B On-slip**	0.00	99999.00		0.00
Eastern Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 Bridge**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B Off-slip**	0.00	99999.00		0.00
Western Dumb-bell	**A5153 West**	0.00	99999.00		0.00
Western Dumb-bell	**A55 N/B On-slip**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Eastern Dumb-bell	A5153 East	3.50	5.75	4.50	21.50	40.00	16.00	
Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Eastern Dumb-bell	A5153 Bridge	5.50	7.50	3.00	23.50	40.00	36.00	
Eastern Dumb-bell	A55 S/B Off-slip	4.00	4.00	0.00	23.00	40.00	20.00	
Western Dumb-bell	A5153 Bridge	7.00	7.00	0.00	31.00	40.00	38.00	
Western Dumb-bell	A55 N/B Off-slip	4.00	4.00	0.00	22.00	40.00	24.00	
Western Dumb-bell	A5153 West	3.50	6.00	7.00	21.50	40.00	24.00	
Western Dumb-bell	A55 N/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Eastern Dumb-bell	A5153 East	None
Eastern Dumb-bell	A55 S/B On-slip	None
Eastern Dumb-bell	A5153 Bridge	None
Eastern Dumb-bell	A55 S/B Off-slip	None
Western Dumb-bell	A5153 Bridge	None
Western Dumb-bell	A55 N/B Off-slip	None
Western Dumb-bell	A5153 West	None
Western Dumb-bell	A55 N/B On-slip	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	A5153 East		((calculated))	((calculated))	0.596	1391.481
Eastern Dumb-bell	A55 S/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Eastern Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.665	1834.727
Eastern Dumb-bell	A55 S/B Off-slip		((calculated))	((calculated))	0.567	1261.787
Western Dumb-bell	A5153 Bridge		((calculated))	((calculated))	0.718	2098.924
Western Dumb-bell	A55 N/B Off-slip		((calculated))	((calculated))	0.558	1242.622
Western Dumb-bell	A5153 West		((calculated))	((calculated))	0.599	1448.264

Western Dumb-bell	**A55 N/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)

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
		Yes	Yes	HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Eastern Dumb-bell	**A5153 East**	FLAT	Yes	579.00	100.000	1.00
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Eastern Dumb-bell	**A55 S/B Off-slip**	FLAT	Yes	301.00	100.000	1.00
Western Dumb-bell	**A5153 Bridge**	Linked Arm			N/A	0.00
Western Dumb-bell	**A55 N/B Off-slip**	FLAT	Yes	391.00	100.000	1.00
Western Dumb-bell	**A5153 West**	FLAT	Yes	251.00	100.000	1.00
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(Exit-only)

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Eastern Dumb-bell	**A5153 Bridge**	2	1	Yes			10.00
Western Dumb-bell	**A5153 Bridge**	1	3	Yes			10.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
1	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
1	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
1	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
1	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
2	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
2	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
2	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
2	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Eastern Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Eastern Dumb-bell	A55 S/B Off-slip	301.00	301.00	N/A	N/A
3	Western Dumb-bell	A5153 Bridge	0.00	0.00	N/A	N/A
3	Western Dumb-bell	A55 N/B Off-slip	391.00	391.00	N/A	N/A
3	Western Dumb-bell	A5153 West	251.00	251.00	N/A	N/A
3	Western Dumb-bell	A55 N/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Eastern Dumb-bell	A5153 East	579.00	579.00	N/A	N/A
4	Eastern Dumb-bell	A55 S/B On-slip	(Exit-only)	0.00	N/A	N/A

4	**Eastern Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	301.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 Bridge**	0.00	0.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	391.00	N/A	N/A
4	**Western Dumb-bell**	**A5153 West**	251.00	251.00	N/A	N/A
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	197.000	382.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	419.000	81.000	0.000	0.000
	4	294.000	0.000	7.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.34	0.66	0.00
	2	0.25	0.25	0.25	0.25
	3	0.84	0.16	0.00	0.00
	4	0.98	0.00	0.02	0.00

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	202.000	188.000

	2	256.000	0.000	135.000	0.000
	3	244.000	0.000	0.000	7.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Western Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.00	0.52	0.48
	2	0.65	0.00	0.35	0.00
	3	0.97	0.00	0.00	0.03
	4	0.25	0.25	0.25	0.25

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	Exit-only	Exit-only	Exit-only	Exit-only
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Eastern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	0.000	0.000	0.000
	2	Exit-only	Exit-only	Exit-only	Exit-only

	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 2 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Western Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	0.43	0.08	0.76	A	579.00	579.00	45.08	0.08	0.75	45.09	0.08	0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)								only)	
Eastern Dumb-bell	**A5153 Bridge**	0.27	0.04	0.37	A	499.34	499.34	22.26	0.04	0.37	22.26	0.04	0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	0.31	0.09	0.44	A	301.00	301.00	26.28	0.09	0.44	26.29	0.09	0.567	1261.787
Western Dumb-bell	**A5153 Bridge**	0.19	0.04	0.23	A	388.49	388.49	13.55	0.03	0.23	13.55	0.03	0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	0.38	0.09	0.61	A	391.00	391.00	36.39	0.09	0.61	36.40	0.09	0.558	1242.622
Western Dumb-bell	**A5153 West**	0.21	0.06	0.27	A	251.00	251.00	16.01	0.06	0.27	16.01	0.06	0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	575.98	707.84	87.29	0.00	1339.45	1167.94	0.432	0.00	0.75
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	276.31	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	497.37	124.34	495.88	386.97	0.00	0.00	1834.73	1620.66	0.271	0.00	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	299.24	0.00	495.88	0.00	980.70	221.43	0.307	0.00	0.44
Western Dumb-bell	**A5153 Bridge**	386.97	96.74	386.07	497.37	0.00	0.00	2098.92	1882.57	0.184	0.00	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	388.57	0.00	386.07	0.00	1027.11	79.64	0.381	0.00	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	249.93	334.12	440.51	0.00	1184.41	813.34	0.212	0.00	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	193.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	578.98	712.96	88.00	0.00	1339.03	1167.94	0.432	0.75	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	277.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	499.98	125.00	499.97	388.99	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37

Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	300.99	0.00	499.97	0.00	978.38	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	388.99	97.25	388.98	499.98	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	390.98	0.00	388.98	0.00	1025.48	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.47	443.50	0.00	1182.62	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.51	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	712.99	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	499.99	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	499.99	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.51	0.00	1182.61	813.34	0.212	0.27	0.27
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Eastern Dumb-bell	**A5153 East**	579.00	144.75	579.00	713.00	88.00	0.00	1339.03	1167.94	0.432	0.76	0.76
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	278.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	500.00	125.00	500.00	389.00	0.00	0.00	1834.73	1620.66	0.273	0.37	0.37
Eastern Dumb-bell	**A55 S/B Off-slip**	301.00	75.25	301.00	0.00	500.00	0.00	978.37	221.43	0.308	0.44	0.44
Western Dumb-bell	**A5153 Bridge**	389.00	97.25	389.00	500.00	0.00	0.00	2098.92	1882.57	0.185	0.23	0.23
Western Dumb-bell	**A55 N/B Off-slip**	391.00	97.75	391.00	0.00	389.00	0.00	1025.47	79.64	0.381	0.61	0.61
Western Dumb-bell	**A5153 West**	251.00	62.75	251.00	336.48	443.52	0.00	1182.61	813.34	0.212	0.27	0.27

Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	194.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	10.95	0.73	0.078	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.46	0.36	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.38	0.43	0.088	A	A
Western Dumb-bell	**A5153 Bridge**	3.33	0.22	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	8.81	0.59	0.094	A	A
Western Dumb-bell	**A5153 West**	3.92	0.26	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.35	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.59	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.62	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.40	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.17	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.02	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.38	0.76	0.079	A	A

Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.61	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.64	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.41	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.20	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.03	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Eastern Dumb-bell	**A5153 East**	11.40	0.76	0.079	A	A
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.61	0.37	0.045	A	A
Eastern Dumb-bell	**A55 S/B Off-slip**	6.65	0.44	0.089	A	A
Western Dumb-bell	**A5153 Bridge**	3.41	0.23	0.035	A	A
Western Dumb-bell	**A55 N/B Off-slip**	9.22	0.61	0.095	A	A
Western Dumb-bell	**A5153 West**	4.03	0.27	0.064	A	A
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Eastern Dumb-bell	**A5153 East**	3.50	5.75	4.50	21.50	40.00	16.00		0.596	1391.481
Eastern Dumb-bell	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Eastern Dumb-bell	**A5153 Bridge**	5.50	7.50	3.00	23.50	40.00	36.00		0.665	1834.727
Eastern Dumb-bell	**A55 S/B Off-slip**	4.00	4.00	0.00	23.00	40.00	20.00		0.567	1261.787

Western Dumb-bell	**A5153 Bridge**	7.00	7.00	0.00	31.00	40.00	38.00		0.718	2098.924
Western Dumb-bell	**A55 N/B Off-slip**	4.00	4.00	0.00	22.00	40.00	24.00		0.558	1242.622
Western Dumb-bell	**A5153 West**	3.50	6.00	7.00	21.50	40.00	24.00		0.599	1448.264
Western Dumb-bell	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.45	0.432	0.00	0.00	0.75	10.95	(0.02)	0.078
1	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Eastern Dumb-bell**	**A5153 Bridge**	497.37	1834.73	0.271	0.00	0.00	0.37	5.46	(0.02)	0.045
1	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	980.70	0.307	0.00	0.00	0.44	6.38	(0.02)	0.088
1	**Western Dumb-bell**	**A5153 Bridge**	386.97	2098.92	0.184	0.00	0.00	0.23	3.33	(0.02)	0.035
1	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1027.11	0.381	0.00	0.00	0.61	8.81	(0.02)	0.094
1	**Western Dumb-bell**	**A5153 West**	251.00	1184.41	0.212	0.00	0.00	0.27	3.92	(0.02)	0.064
1	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.75	0.76	11.35	(0.02)	0.079
2	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Eastern Dumb-bell**	**A5153 Bridge**	499.98	1834.73	0.273	0.00	0.37	0.37	5.59	(0.02)	0.045
2	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.38	0.308	0.00	0.44	0.44	6.62	(0.02)	0.089
2	**Western Dumb-bell**	**A5153 Bridge**	388.99	2098.92	0.185	0.00	0.23	0.23	3.40	(0.02)	0.035
2	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.48	0.381	0.00	0.61	0.61	9.17	(0.02)	0.095
2	**Western Dumb-bell**	**A5153 West**	251.00	1182.62	0.212	0.00	0.27	0.27	4.02	(0.02)	0.064
2	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.76	0.76	11.38	(0.02)	0.079
3	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Eastern Dumb-bell**	**A5153 Bridge**	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
3	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.37	0.308	0.00	0.44	0.44	6.64	(0.02)	0.089
3	**Western Dumb-bell**	**A5153 Bridge**	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
3	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.47	0.381	0.00	0.61	0.61	9.20	(0.02)	0.095
3	**Western Dumb-bell**	**A5153 West**	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
3	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 East**	579.00	1339.03	0.432	0.00	0.76	0.76	11.40	(0.02)	0.079
4	**Eastern Dumb-bell**	**A55 S/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Eastern Dumb-bell**	**A5153 Bridge**	500.00	1834.73	0.273	0.00	0.37	0.37	5.61	(0.02)	0.045
4	**Eastern Dumb-bell**	**A55 S/B Off-slip**	301.00	978.37	0.308	0.00	0.44	0.44	6.65	(0.02)	0.089

4	**Western Dumb-bell**	**A5153 Bridge**	389.00	2098.92	0.185	0.00	0.23	0.23	3.41	(0.02)	0.035
4	**Western Dumb-bell**	**A55 N/B Off-slip**	391.00	1025.47	0.381	0.00	0.61	0.61	9.22	(0.02)	0.095
4	**Western Dumb-bell**	**A5153 West**	251.00	1182.61	0.212	0.00	0.27	0.27	4.03	(0.02)	0.064
4	**Western Dumb-bell**	**A55 N/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

ARCADY 7

Version: 7.1.1.245 [9th June 2011]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

File: L:\Manchester Projects\90145 Penrhos Leisure Village Anglesey\I -Calculations\Revised Part Cybi\Modelling\3. A55_Junction 3_2032.arc7
Report generation date: 25/02/2013 17:42:07

Summary of roundabout performance

	AM		PM		Sat	
	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC
	(Default Analysis Set) - Base+Com 2032					
Southern Dumb-bell - A55 W/B Off-slip	0.18	0.15	0.33	0.25	0.25	0.20
Southern Dumb-bell - Holyhead Road South	0.24	0.20	0.32	0.24	0.13	0.12
Southern Dumb-bell - A55 W/B On-slip	0.00	0.00	0.00	0.00	0.00	0.00
Southern Dumb-bell - A5 Bridge	0.29	0.22	0.21	0.17	0.12	0.11

Northern Dumb-bell - A5 Bridge	0.47	0.32	0.87	0.47	0.48	0.33
Northern Dumb-bell - A55 E/B Off-slip	0.07	0.07	0.06	0.06	0.04	0.04
Northern Dumb-bell - A5 Holyhead Road North	0.66	0.40	0.76	0.43	0.46	0.32
	(Default Analysis Set) - Base+Com+Dev 2032					
Southern Dumb-bell - A55 W/B Off-slip	0.21	0.18	0.40	0.28	0.29	0.22
Southern Dumb-bell - Holyhead Road South	0.25	0.20	0.33	0.25	0.13	0.12
Southern Dumb-bell - A55 W/B On-slip	0.00	0.00	0.00	0.00	0.00	0.00
Southern Dumb-bell - A5 Bridge	0.29	0.22	0.21	0.17	0.12	0.11
Northern Dumb-bell - A5 Bridge	0.54	0.35	1.05	0.52	0.56	0.36
Northern Dumb-bell - A55 E/B Off-slip	0.07	0.07	0.06	0.06	0.04	0.04
Northern Dumb-bell - A5 Holyhead Road North	0.80	0.45	0.87	0.47	0.52	0.34
	(Default Analysis Set) - Base+Dev 2032					
Southern Dumb-bell - A55 W/B Off-slip	0.18	0.15	0.36	0.26	0.29	0.22
Southern Dumb-bell - Holyhead Road South	0.21	0.17	0.30	0.23	0.13	0.12
Southern Dumb-bell - A55 W/B On-slip	0.00	0.00	0.00	0.00	0.00	0.00
Southern Dumb-bell - A5 Bridge	0.28	0.22	0.19	0.16	0.12	0.11
Northern Dumb-bell - A5 Bridge	0.42	0.30	0.91	0.48	0.56	0.36
Northern Dumb-bell - A55 E/B Off-slip	0.07	0.07	0.06	0.06	0.04	0.04
Northern Dumb-bell - A5 Holyhead Road North	0.76	0.43	0.71	0.42	0.52	0.34

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

Base+Com 2032 - AM runs from 08:15:00 to 09:45:00
Base+Com 2032 - PM runs from 15:30:00 to 17:00:00
Base+Com 2032 - Sat runs from 12:00:00 to 13:30:00
Base+Com+Dev 2032 - AM runs from 08:15:00 to 09:45:00
Base+Com+Dev 2032 - PM runs from 15:30:00 to 17:00:00
Base+Com+Dev 2032 - Sat runs from 12:00:00 to 13:30:00
Base+Dev 2032 - AM runs from 08:15:00 to 09:45:00
Base+Dev 2032 - PM runs from 15:30:00 to 17:00:00
Base+Dev 2032 - Sat runs from 12:00:00 to 13:30:00

File summary

File Description

Title	A55/Junction 3
Location	
Site Number	Junction 3
Date	01/02/2013
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	T Nichol
Description	Alternative Distribution

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	PCU	PCU	perHour	min	-Min	perMin

A1 - (Default Analysis Set) - D7 - Base+Com 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, AM	Base+Com 2032	AM			Yes			08:15	09:45	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	

4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00	
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	A55 W/B Off-slip	None
Southern Dumb-bell	Holyhead Road South	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A5 Bridge	None
Northern Dumb-bell	A55 E/B On-slip	None
Northern Dumb-bell	A5 Bridge	None
Northern Dumb-bell	A55 E/B Off-slip	None
Northern Dumb-bell	A5 Holyhead Road North	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	Holyhead Road South		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge		((calculated))	((calculated))	0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	A55 E/B Off-slip		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	A5 Holyhead Road North		((calculated))	((calculated))	0.487	1150.984

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle	Vehicle Mix Varies Over	Vehicle Mix Varies Over	Vehicle Mix Varies Over	Vehicle Mix Source	PCU Factor for a HV	Default Turning Proportions	Estimate from entry/exit	Turning Proportions Vary	Turning Proportions Vary	Turning Proportions Vary

Mix	Time	Turn	Entry		(PCU)		counts	Over Time	Over Turn	Over Entry
				HV Percentages	2.00				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	212.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	192.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	1.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	75.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	404.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Southern Dumb-bell**	**A55 W/B Off-slip**	159.60	159.60	N/A	N/A
1	**Southern Dumb-bell**	**Holyhead Road South**	144.55	144.55	N/A	N/A

1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B Off-slip**	56.46	56.46	N/A	N/A
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	304.15	304.15	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	190.58	190.58	N/A	N/A
2	**Southern Dumb-bell**	**Holyhead Road South**	172.60	172.60	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	67.42	67.42	N/A	N/A
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	363.19	363.19	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	233.42	233.42	N/A	N/A
3	**Southern Dumb-bell**	**Holyhead Road South**	211.40	211.40	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	82.58	N/A	N/A
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	444.81	444.81	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	233.42	233.42	N/A	N/A
4	**Southern Dumb-bell**	**Holyhead Road South**	211.40	211.40	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A

4	Northern Dumb-bell	A55 E/B Off-slip	82.58	82.58	N/A	N/A
4	Northern Dumb-bell	A5 Holyhead Road North	444.81	444.81	N/A	N/A
5	Southern Dumb-bell	A55 W/B Off-slip	190.58	190.58	N/A	N/A
5	Southern Dumb-bell	Holyhead Road South	172.60	172.60	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B Off-slip	67.42	67.42	N/A	N/A
5	Northern Dumb-bell	A5 Holyhead Road North	363.19	363.19	N/A	N/A
6	Southern Dumb-bell	A55 W/B Off-slip	159.60	159.60	N/A	N/A
6	Southern Dumb-bell	Holyhead Road South	144.55	144.55	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B Off-slip	56.46	56.46	N/A	N/A
6	Northern Dumb-bell	A5 Holyhead Road North	304.15	304.15	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	0.000	0.000	0.000	212.000
	2	0.000	0.000	0.000	69.000	123.000
	3	0.000	1.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	205.000	0.000	20.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.00	0.00	0.00	0.00	1.00
	2	0.00	0.00	0.00	0.36	0.64
	3	0.00	1.00	0.00	0.00	0.00
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.91	0.00	0.09	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	7.000	0.000	0.000	286.000
	3	0.000	61.000	0.000	14.000
	4	241.000	163.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.25	0.25	0.25	0.25
	2	0.02	0.00	0.00	0.98
	3	0.00	0.81	0.00	0.19
	4	0.60	0.40	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	0.15	0.05	0.18	A	194.53	291.80	13.14	0.05	0.15	13.15	0.05	0.547	1642.419
Southern Dumb-bell	Holyhead Road South	0.20	0.07	0.24	A	176.18	264.27	17.36	0.07	0.19	17.36	0.07	0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	0.22	0.07	0.29	A	205.42	308.13	20.67	0.07	0.23	20.67	0.07	0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	0.32	0.08	0.47	A	307.26	460.89	33.24	0.07	0.37	33.24	0.07	0.448	1143.326
Northern Dumb-bell	A55 E/B Off-slip	0.07	0.05	0.07	A	68.82	103.23	5.12	0.05	0.06	5.12	0.05	0.532	1443.472
Northern Dumb-bell	A5 Holyhead Road North	0.40	0.09	0.66	A	370.72	556.08	45.01	0.08	0.50	45.02	0.08	0.487	1150.984

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand	Capacity (PCU/hr)	Saturation Capacity	RFC	Start Queue	End Queue

							(Ped/hr)		(PCU/hr)		(PCU)	(PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	159.60	39.90	159.15	0.00	167.18	0.00	1551.02	697.22	0.103	0.00	0.11
Southern Dumb-bell	**Holyhead Road South**	144.55	36.14	143.95	152.32	174.01	0.00	1111.91	459.89	0.130	0.00	0.15
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	317.96	0.00	979.59	572.29	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	66.59	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	167.90	41.97	167.18	251.37	0.00	0.00	1100.40	826.20	0.153	0.00	0.18
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	186.54	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	251.37	62.84	250.25	167.90	0.00	0.00	1143.33	1033.60	0.220	0.00	0.28
Northern Dumb-bell	**A55 E/B Off-slip**	56.46	14.12	56.28	0.00	250.25	0.00	1310.43	586.45	0.043	0.00	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	304.15	76.04	302.68	254.77	51.76	0.00	1125.79	624.62	0.270	0.00	0.37

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	190.58	47.65	190.47	0.00	200.99	0.00	1532.53	687.17	0.124	0.11	0.14
Southern Dumb-bell	**Holyhead Road South**	172.60	43.15	172.45	183.12	208.34	0.00	1095.22	439.71	0.158	0.15	0.19
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	380.79	0.00	951.86	585.02	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	79.84	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	201.16	50.29	200.99	300.95	0.00	0.00	1100.40	816.47	0.183	0.18	0.22
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	223.58	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	300.95	75.24	300.65	201.16	0.00	0.00	1143.33	1011.15	0.263	0.28	0.36
Northern Dumb-bell	**A55 E/B Off-slip**	67.42	16.86	67.38	0.00	300.65	0.00	1283.63	514.54	0.053	0.04	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	363.19	90.80	362.76	306.05	61.99	0.00	1120.81	705.93	0.324	0.37	0.48

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	233.42	58.35	233.25	0.00	246.03	0.00	1507.90	688.43	0.155	0.14	0.18

Southern Dumb-bell	**Holyhead Road South**	211.40	52.85	211.16	224.16	255.12	0.00	1072.47	441.64	0.197	0.19	0.24
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	466.29	0.00	914.13	583.84	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	97.76	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	246.28	61.57	246.03	368.53	0.00	0.00	1100.40	818.18	0.224	0.22	0.29
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	273.70	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	368.53	92.13	368.06	246.28	0.00	0.00	1143.33	1013.14	0.322	0.36	0.47
Northern Dumb-bell	**A55 E/B Off-slip**	82.58	20.64	82.52	0.00	368.06	0.00	1247.79	509.80	0.066	0.06	0.07
Northern Dumb-bell	**A5 Holyhead Road North**	444.81	111.20	444.08	374.67	75.91	0.00	1114.04	723.05	0.399	0.48	0.66

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	233.42	58.35	233.41	0.00	246.62	0.00	1507.59	688.43	0.155	0.18	0.18
Southern Dumb-bell	**Holyhead Road South**	211.40	52.85	211.39	224.70	255.34	0.00	1072.37	441.64	0.197	0.24	0.24
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	466.73	0.00	913.93	583.84	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	97.89	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	246.62	61.66	246.62	368.84	0.00	0.00	1100.40	818.18	0.224	0.29	0.29
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	274.15	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	368.84	92.21	368.83	246.62	0.00	0.00	1143.33	1013.14	0.323	0.47	0.47
Northern Dumb-bell	**A55 E/B Off-slip**	82.58	20.64	82.58	0.00	368.83	0.00	1247.38	509.80	0.066	0.07	0.07
Northern Dumb-bell	**A5 Holyhead Road North**	444.81	111.20	444.80	375.43	75.97	0.00	1114.00	723.05	0.399	0.66	0.66

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	190.58	47.65	190.74	0.00	201.96	0.00	1532.00	687.17	0.124	0.18	0.14
Southern Dumb-bell	**Holyhead Road South**	172.60	43.15	172.83	184.01	208.70	0.00	1095.04	439.72	0.158	0.24	0.19
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	381.53	0.00	951.53	585.02	0.000	0.00	0.00

Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	80.06	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	201.71	50.43	201.96	301.46	0.00	0.00	1100.40	816.47	0.183	0.29	0.23
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	224.29	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	301.46	75.37	301.92	201.71	0.00	0.00	1143.33	1011.15	0.264	0.47	0.36
Northern Dumb-bell	**A55 E/B Off-slip**	67.42	16.86	67.48	0.00	301.92	0.00	1282.96	514.54	0.053	0.07	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	363.19	90.80	363.90	307.30	62.10	0.00	1120.76	705.93	0.324	0.66	0.48

Main results: (09:30-09:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	159.60	39.90	159.71	0.00	169.03	0.00	1550.01	686.33	0.103	0.14	0.12
Southern Dumb-bell	**Holyhead Road South**	144.55	36.14	144.70	154.00	174.74	0.00	1111.55	438.30	0.130	0.19	0.15
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	319.44	0.00	978.94	585.85	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	67.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	168.85	42.21	169.03	252.41	0.00	0.00	1100.40	815.23	0.153	0.23	0.18
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	187.74	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	252.41	63.10	252.71	168.85	0.00	0.00	1143.33	1009.78	0.221	0.36	0.28
Northern Dumb-bell	**A55 E/B Off-slip**	56.46	14.12	56.51	0.00	252.71	0.00	1309.12	518.18	0.043	0.06	0.05
Northern Dumb-bell	**A5 Holyhead Road North**	304.15	76.04	304.59	257.22	52.00	0.00	1125.67	693.24	0.270	0.48	0.37

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	1.69	0.11	0.043	A	A
Southern Dumb-bell	**Holyhead Road South**	2.19	0.15	0.062	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Southern Dumb-bell	**A5 Bridge**	2.63	0.18	0.064	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.10	0.27	0.067	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.66	0.04	0.048	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	5.37	0.36	0.073	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.10	0.14	0.045	A	A
Southern Dumb-bell	**Holyhead Road South**	2.75	0.18	0.065	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.29	0.22	0.067	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	5.24	0.35	0.071	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.82	0.05	0.049	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	7.00	0.47	0.079	A	A

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.71	0.18	0.047	A	A
Southern Dumb-bell	**Holyhead Road South**	3.60	0.24	0.070	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	4.23	0.28	0.070	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	6.94	0.46	0.077	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	1.05	0.07	0.051	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	9.64	0.64	0.089	A	A

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.74	0.18	0.047	A	A
Southern Dumb-bell	Holyhead Road South	3.67	0.24	0.070	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	4.31	0.29	0.070	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	7.10	0.47	0.077	A	A
Northern Dumb-bell	A55 E/B Off-slip	1.06	0.07	0.051	A	A
Northern Dumb-bell	A5 Holyhead Road North	9.90	0.66	0.090	A	A

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.16	0.14	0.045	A	A
Southern Dumb-bell	Holyhead Road South	2.87	0.19	0.065	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	3.44	0.23	0.067	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	5.51	0.37	0.071	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.84	0.06	0.049	A	A
Northern Dumb-bell	A5 Holyhead Road North	7.41	0.49	0.079	A	A

Queueing Delay results: (09:30-09:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	1.75	0.12	0.043	A	A
Southern Dumb-bell	Holyhead Road South	2.28	0.15	0.062	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	2.77	0.18	0.064	A	A

Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.34	0.29	0.067	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.69	0.05	0.048	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	5.70	0.38	0.073	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time	Roundabout	Arm	Demand	Capacity	RFC	Pedestrian	Start	End	Queueing Total	Geometric Total	Average Delay Per

Segment			(PCU/hr)	(PCU/hr)		Demand (Ped/hr)	Queue (PCU)	Queue (PCU)	Delay (PCU-min)	Delay (PCU-min)	Arriving Vehicle (min)
1	Southern Dumb-bell	A55 W/B Off-slip	159.60	1551.02	0.103	0.00	0.00	0.11	1.69	(0.02)	0.043
1	Southern Dumb-bell	Holyhead Road South	144.55	1111.91	0.130	0.00	0.00	0.15	2.19	(0.02)	0.062
1	Southern Dumb-bell	A55 W/B On-slip	0.00	979.59	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Southern Dumb-bell	A5 Bridge	167.90	1100.40	0.153	0.00	0.00	0.18	2.63	(0.02)	0.064
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Northern Dumb-bell	A5 Bridge	251.37	1143.33	0.220	0.00	0.00	0.28	4.10	(0.02)	0.067
1	Northern Dumb-bell	A55 E/B Off-slip	56.46	1310.43	0.043	0.00	0.00	0.04	0.66	(0.02)	0.048
1	Northern Dumb-bell	A5 Holyhead Road North	304.15	1125.79	0.270	0.00	0.00	0.37	5.37	(0.02)	0.073
2	Southern Dumb-bell	A55 W/B Off-slip	190.58	1532.53	0.124	0.00	0.11	0.14	2.10	(0.02)	0.045
2	Southern Dumb-bell	Holyhead Road South	172.60	1095.22	0.158	0.00	0.15	0.19	2.75	(0.02)	0.065
2	Southern Dumb-bell	A55 W/B On-slip	0.00	951.86	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Southern Dumb-bell	A5 Bridge	201.16	1100.40	0.183	0.00	0.18	0.22	3.29	(0.02)	0.067
2	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Northern Dumb-bell	A5 Bridge	300.95	1143.33	0.263	0.00	0.28	0.36	5.24	(0.02)	0.071
2	Northern Dumb-bell	A55 E/B Off-slip	67.42	1283.63	0.053	0.00	0.04	0.06	0.82	(0.02)	0.049

2	**Northern Dumb-bell**	**A5 Holyhead Road North**	363.19	1120.81	0.324	0.00	0.37	0.48	7.00	(0.02)	0.079
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	233.42	1507.90	0.155	0.00	0.14	0.18	2.71	(0.02)	0.047
3	**Southern Dumb-bell**	**Holyhead Road South**	211.40	1072.47	0.197	0.00	0.19	0.24	3.60	(0.02)	0.070
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	914.13	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	246.28	1100.40	0.224	0.00	0.22	0.29	4.23	(0.02)	0.070
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	368.53	1143.33	0.322	0.00	0.36	0.47	6.94	(0.02)	0.077
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	1247.79	0.066	0.00	0.06	0.07	1.05	(0.02)	0.051
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	444.81	1114.04	0.399	0.00	0.48	0.66	9.64	(0.02)	0.089
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	233.42	1507.59	0.155	0.00	0.18	0.18	2.74	(0.02)	0.047
4	**Southern Dumb-bell**	**Holyhead Road South**	211.40	1072.37	0.197	0.00	0.24	0.24	3.67	(0.02)	0.070
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	913.93	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Southern Dumb-bell**	**A5 Bridge**	246.62	1100.40	0.224	0.00	0.29	0.29	4.31	(0.02)	0.070
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Northern Dumb-bell**	**A5 Bridge**	368.84	1143.33	0.323	0.00	0.47	0.47	7.10	(0.02)	0.077
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	1247.38	0.066	0.00	0.07	0.07	1.06	(0.02)	0.051

4	**Northern Dumb-bell**	**A5 Holyhead Road North**	444.81	1114.00	0.399	0.00	0.66	0.66	9.90	(0.02)	0.090
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	190.58	1532.00	0.124	0.00	0.18	0.14	2.16	(0.02)	0.045
5	**Southern Dumb-bell**	**Holyhead Road South**	172.60	1095.04	0.158	0.00	0.24	0.19	2.87	(0.02)	0.065
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	951.53	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	201.71	1100.40	0.183	0.00	0.29	0.23	3.44	(0.02)	0.067
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	301.46	1143.33	0.264	0.00	0.47	0.36	5.51	(0.02)	0.071
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	67.42	1282.96	0.053	0.00	0.07	0.06	0.84	(0.02)	0.049
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	363.19	1120.76	0.324	0.00	0.66	0.48	7.41	(0.02)	0.079
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	159.60	1550.01	0.103	0.00	0.14	0.12	1.75	(0.02)	0.043
6	**Southern Dumb-bell**	**Holyhead Road South**	144.55	1111.55	0.130	0.00	0.19	0.15	2.28	(0.02)	0.062
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	978.94	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Southern Dumb-bell**	**A5 Bridge**	168.85	1100.40	0.153	0.00	0.23	0.18	2.77	(0.02)	0.064
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Northern Dumb-bell**	**A5 Bridge**	252.41	1143.33	0.221	0.00	0.36	0.28	4.34	(0.02)	0.067
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	56.46	1309.12	0.043	0.00	0.06	0.05	0.69	(0.02)	0.048

6	**Northern Dumb-bell**	**A5 Holyhead Road North**	304.15	1125.67	0.270	0.00	0.48	0.37	5.70	(0.02)	0.073

A1 - (Default Analysis Set) - D8 - Base+Com 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, PM	Base+Com 2032	PM			Yes			15:30	17:00	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00	

Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	**A55 W/B Off-slip**	None
Southern Dumb-bell	**Holyhead Road South**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B On-slip**	None
Northern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B Off-slip**	None
Northern Dumb-bell	**A5 Holyhead Road North**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	346.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	222.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	4.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	59.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	442.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Southern Dumb-bell	A55 W/B Off-slip	260.49	260.49	N/A	N/A
1	Southern Dumb-bell	Holyhead Road South	167.13	167.13	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B Off-slip	44.42	44.42	N/A	N/A
1	Northern Dumb-bell	A5 Holyhead Road North	332.76	332.76	N/A	N/A
2	Southern Dumb-bell	A55 W/B Off-slip	311.05	311.05	N/A	N/A
2	Southern Dumb-bell	Holyhead Road South	199.57	199.57	N/A	N/A
2	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
2	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
2	Northern Dumb-bell	A55 E/B Off-slip	53.04	53.04	N/A	N/A
2	Northern Dumb-bell	A5 Holyhead Road North	397.35	397.35	N/A	N/A
3	Southern Dumb-bell	A55 W/B Off-slip	380.95	380.95	N/A	N/A
3	Southern Dumb-bell	Holyhead Road South	244.43	244.43	N/A	N/A
3	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
3	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
3	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
3	Northern Dumb-bell	A55 E/B Off-slip	64.96	64.96	N/A	N/A
3	Northern Dumb-bell	A5 Holyhead Road North	486.65	486.65	N/A	N/A

4	Southern Dumb-bell	A55 W/B Off-slip	380.95	380.95	N/A	N/A
4	Southern Dumb-bell	Holyhead Road South	244.43	244.43	N/A	N/A
4	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
4	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
4	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
4	Northern Dumb-bell	A55 E/B Off-slip	64.96	64.96	N/A	N/A
4	Northern Dumb-bell	A5 Holyhead Road North	486.65	486.65	N/A	N/A
5	Southern Dumb-bell	A55 W/B Off-slip	311.05	311.05	N/A	N/A
5	Southern Dumb-bell	Holyhead Road South	199.57	199.57	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B Off-slip	53.04	53.04	N/A	N/A
5	Northern Dumb-bell	A5 Holyhead Road North	397.35	397.35	N/A	N/A
6	Southern Dumb-bell	A55 W/B Off-slip	260.49	260.49	N/A	N/A
6	Southern Dumb-bell	Holyhead Road South	167.13	167.13	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B Off-slip	44.42	44.42	N/A	N/A
6	Northern Dumb-bell	A5 Holyhead Road North	332.76	332.76	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	6.000	8.000	0.000	332.000
	2	0.000	0.000	0.000	70.000	152.000
	3	0.000	3.000	0.000	1.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	161.000	0.000	12.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.00	0.02	0.02	0.00	0.96
	2	0.00	0.00	0.00	0.32	0.68
	3	0.00	0.75	0.00	0.25	0.00
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.93	0.00	0.07	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	8.000	0.000	0.000	450.000
	3	0.000	49.000	0.000	10.000
	4	319.000	123.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
From		1	2	3	4

	1	0.25	0.25	0.25	0.25
	2	0.02	0.00	0.00	0.98
	3	0.00	0.83	0.00	0.17
	4	0.72	0.28	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

	To

		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	0.25	0.05	0.33	A	317.50	476.24	23.20	0.05	0.26	23.20	0.05	0.547	1642.419
Southern Dumb-bell	Holyhead Road South	0.24	0.08	0.32	A	203.71	305.57	22.12	0.07	0.25	22.12	0.07	0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	0.17	0.07	0.21	A	157.73	236.60	15.05	0.06	0.17	15.05	0.06	0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	0.47	0.10	0.87	A	443.91	665.87	57.97	0.09	0.64	57.97	0.09	0.448	1143.326

Northern Dumb-bell	A55 E/B Off-slip	0.06	0.05	0.06	A	54.14	81.21	4.24	0.05	0.05	4.24	0.05	0.532	1443.472
Northern Dumb-bell	A5 Holyhead Road North	0.43	0.09	0.76	A	405.59	608.38	51.41	0.08	0.57	51.41	0.08	0.487	1150.984

Main Results

Main results: (15:30-15:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	260.49	65.12	259.70	0.00	128.38	0.00	1572.23	697.77	0.166	0.00	0.20
Southern Dumb-bell	Holyhead Road South	167.13	41.78	166.40	123.98	264.10	0.00	1068.11	442.63	0.156	0.00	0.18
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	6.00	424.49	0.00	932.57	596.21	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	61.37	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	128.91	32.23	128.38	363.12	0.00	0.00	1100.40	875.99	0.117	0.00	0.13
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	245.27	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	363.12	90.78	361.27	128.91	0.00	0.00	1143.33	1016.47	0.318	0.00	0.46
Northern Dumb-bell	A55 E/B Off-slip	44.42	11.10	44.27	0.00	361.27	0.00	1251.40	683.46	0.035	0.00	0.04
Northern Dumb-bell	A5 Holyhead Road North	332.76	83.19	331.10	362.46	43.08	0.00	1130.02	699.28	0.294	0.00	0.41

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	311.05	77.76	310.84	0.00	154.33	0.00	1558.04	692.97	0.200	0.20	0.25
Southern Dumb-bell	Holyhead Road South	199.57	49.89	199.37	149.02	316.16	0.00	1042.80	422.68	0.191	0.18	0.24
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	7.19	508.34	0.00	895.56	606.65	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	73.57	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	154.45	38.61	154.33	434.77	0.00	0.00	1100.40	870.17	0.140	0.13	0.16
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	293.99	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	434.77	108.69	434.19	154.45	0.00	0.00	1143.33	998.10	0.380	0.46	0.61

Northern Dumb-bell	**A55 E/B Off-slip**	53.04	13.26	53.00	0.00	434.19	0.00	1212.64	624.19	0.044	0.04	0.05
Northern Dumb-bell	**A5 Holyhead Road North**	397.35	99.34	396.84	435.59	51.60	0.00	1125.87	807.74	0.353	0.41	0.54

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	380.95	95.24	380.64	0.00	188.91	0.00	1539.13	694.81	0.248	0.25	0.33
Southern Dumb-bell	**Holyhead Road South**	244.43	61.11	244.10	182.41	387.14	0.00	1008.29	421.61	0.242	0.24	0.32
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.80	622.44	0.00	845.21	606.75	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	90.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	189.09	47.27	188.91	532.36	0.00	0.00	1100.40	872.03	0.172	0.16	0.21
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	359.87	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	532.36	133.09	531.35	189.09	0.00	0.00	1143.33	998.07	0.466	0.61	0.86
Northern Dumb-bell	**A55 E/B Off-slip**	64.96	16.24	64.91	0.00	531.35	0.00	1160.98	624.62	0.056	0.05	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	486.65	121.66	485.78	533.07	63.19	0.00	1120.23	812.53	0.434	0.54	0.76

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	380.95	95.24	380.95	0.00	189.37	0.00	1538.89	694.81	0.248	0.33	0.33
Southern Dumb-bell	**Holyhead Road South**	244.43	61.11	244.42	182.84	387.48	0.00	1008.13	421.62	0.242	0.32	0.32
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.81	623.09	0.00	844.92	606.75	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	90.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	189.37	47.34	189.37	532.89	0.00	0.00	1100.40	872.03	0.172	0.21	0.21
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	360.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	532.89	133.22	532.86	189.37	0.00	0.00	1143.33	998.07	0.466	0.86	0.87
Northern Dumb-bell	**A55 E/B Off-slip**	64.96	16.24	64.96	0.00	532.86	0.00	1160.18	624.62	0.056	0.06	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	486.65	121.66	486.63	534.57	63.26	0.00	1120.19	812.53	0.434	0.76	0.76

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	311.05	77.76	311.36	0.00	155.08	0.00	1557.63	692.97	0.200	0.33	0.25
Southern Dumb-bell	Holyhead Road South	199.57	49.89	199.90	149.72	316.72	0.00	1042.53	422.68	0.191	0.32	0.24
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	7.20	509.41	0.00	895.09	606.65	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	73.79	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	154.91	38.73	155.08	435.63	0.00	0.00	1100.40	870.17	0.141	0.21	0.16
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	295.02	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	435.63	108.91	436.61	154.91	0.00	0.00	1143.33	998.10	0.381	0.87	0.62
Northern Dumb-bell	A55 E/B Off-slip	53.04	13.26	53.09	0.00	436.61	0.00	1211.35	624.18	0.044	0.06	0.05
Northern Dumb-bell	A5 Holyhead Road North	397.35	99.34	398.20	437.98	51.72	0.00	1125.81	807.74	0.353	0.76	0.55

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	260.49	65.12	260.69	0.00	129.79	0.00	1571.46	691.54	0.166	0.25	0.20
Southern Dumb-bell	Holyhead Road South	167.13	41.78	167.34	125.30	265.17	0.00	1067.59	423.45	0.157	0.24	0.19
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	6.03	426.49	0.00	931.69	606.61	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	61.77	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	129.66	32.42	129.79	364.72	0.00	0.00	1100.40	868.77	0.118	0.16	0.13
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	246.92	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	364.72	91.18	365.31	129.66	0.00	0.00	1143.33	998.04	0.319	0.62	0.47
Northern Dumb-bell	A55 E/B Off-slip	44.42	11.10	44.45	0.00	365.31	0.00	1249.25	624.30	0.036	0.05	0.04
Northern Dumb-bell	A5 Holyhead Road North	332.76	83.19	333.28	366.47	43.30	0.00	1129.91	802.58	0.295	0.55	0.42

Queueing Delay Results

Queueing Delay results: (15:30-15:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.92	0.19	0.046	A	A
Southern Dumb-bell	Holyhead Road South	2.71	0.18	0.066	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.94	0.13	0.062	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	6.73	0.45	0.077	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.54	0.04	0.050	A	A
Northern Dumb-bell	A5 Holyhead Road North	6.05	0.40	0.075	A	A

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	3.68	0.25	0.048	A	A
Southern Dumb-bell	Holyhead Road South	3.47	0.23	0.071	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	2.40	0.16	0.063	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	8.93	0.60	0.085	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.68	0.05	0.052	A	A
Northern Dumb-bell	A5 Holyhead Road North	7.95	0.53	0.082	A	A

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	4.84	0.32	0.052	A	A
Southern Dumb-bell	Holyhead Road South	4.68	0.31	0.078	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	3.05	0.20	0.066	A	A

Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	12.55	0.84	0.098	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.87	0.06	0.055	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	11.10	0.74	0.094	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	4.92	0.33	0.052	A	A
Southern Dumb-bell	**Holyhead Road South**	4.78	0.32	0.079	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.10	0.21	0.066	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	12.97	0.86	0.098	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.89	0.06	0.055	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	11.44	0.76	0.095	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.81	0.25	0.048	A	A
Southern Dumb-bell	**Holyhead Road South**	3.64	0.24	0.071	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.51	0.17	0.064	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	9.55	0.64	0.085	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.70	0.05	0.052	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	8.45	0.56	0.083	A	A

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

Roundabout	Arm	Queueing Total Delay	Queueing Rate Of Delay	Average Delay Per Arriving	Unsignalised Level Of	Signalised Level Of

		(PCU-min)	(PCU-min/min)	Vehicle (min)	Service	Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.03	0.20	0.046	A	A
Southern Dumb-bell	**Holyhead Road South**	2.84	0.19	0.067	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.04	0.14	0.062	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	7.23	0.48	0.077	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.56	0.04	0.050	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.43	0.43	0.075	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Southern Dumb-bell	A55 W/B Off-slip	260.49	1572.23	0.166	0.00	0.00	0.20	2.92	(0.02)	0.046
1	Southern Dumb-bell	Holyhead Road South	167.13	1068.11	0.156	0.00	0.00	0.18	2.71	(0.02)	0.066
1	Southern Dumb-bell	A55 W/B On-slip	0.00	932.57	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Southern Dumb-bell	A5 Bridge	128.91	1100.40	0.117	0.00	0.00	0.13	1.94	(0.02)	0.062
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Northern Dumb-bell	A5 Bridge	363.12	1143.33	0.318	0.00	0.00	0.46	6.73	(0.02)	0.077
1	Northern Dumb-bell	A55 E/B Off-slip	44.42	1251.40	0.035	0.00	0.00	0.04	0.54	(0.02)	0.050
1	Northern Dumb-bell	A5 Holyhead Road North	332.76	1130.02	0.294	0.00	0.00	0.41	6.05	(0.02)	0.075
2	Southern Dumb-bell	A55 W/B Off-slip	311.05	1558.04	0.200	0.00	0.20	0.25	3.68	(0.02)	0.048
2	Southern Dumb-bell	Holyhead Road South	199.57	1042.80	0.191	0.00	0.18	0.24	3.47	(0.02)	0.071
2	Southern Dumb-bell	A55 W/B On-slip	0.00	895.56	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Southern Dumb-bell	A5 Bridge	154.45	1100.40	0.140	0.00	0.13	0.16	2.40	(0.02)	0.063
2	Northern	A55 E/B On-	(Exit-only)	(Exit-only)	(Exit-	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

	Dumb-bell	**slip**			only)						
2	**Northern Dumb-bell**	**A5 Bridge**	434.77	1143.33	0.380	0.00	0.46	0.61	8.93	(0.02)	0.085
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	53.04	1212.64	0.044	0.00	0.04	0.05	0.68	(0.02)	0.052
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	397.35	1125.87	0.353	0.00	0.41	0.54	7.95	(0.02)	0.082
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	380.95	1539.13	0.248	0.00	0.25	0.33	4.84	(0.02)	0.052
3	**Southern Dumb-bell**	**Holyhead Road South**	244.43	1008.29	0.242	0.00	0.24	0.32	4.68	(0.02)	0.078
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	845.21	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	189.09	1100.40	0.172	0.00	0.16	0.21	3.05	(0.02)	0.066
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	532.36	1143.33	0.466	0.00	0.61	0.86	12.55	(0.02)	0.098
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	1160.98	0.056	0.00	0.05	0.06	0.87	(0.02)	0.055
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	486.65	1120.23	0.434	0.00	0.54	0.76	11.10	(0.02)	0.094
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	380.95	1538.89	0.248	0.00	0.33	0.33	4.92	(0.02)	0.052
4	**Southern Dumb-bell**	**Holyhead Road South**	244.43	1008.13	0.242	0.00	0.32	0.32	4.78	(0.02)	0.079
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	844.92	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Southern Dumb-bell**	**A5 Bridge**	189.37	1100.40	0.172	0.00	0.21	0.21	3.10	(0.02)	0.066
4	**Northern**	**A55 E/B On-**	(Exit-only)	(Exit-only)	(Exit-	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

	Dumb-bell	**slip**			only)						
4	**Northern Dumb-bell**	**A5 Bridge**	532.89	1143.33	0.466	0.00	0.86	0.87	12.97	(0.02)	0.098
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	1160.18	0.056	0.00	0.06	0.06	0.89	(0.02)	0.055
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	486.65	1120.19	0.434	0.00	0.76	0.76	11.44	(0.02)	0.095
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	311.05	1557.63	0.200	0.00	0.33	0.25	3.81	(0.02)	0.048
5	**Southern Dumb-bell**	**Holyhead Road South**	199.57	1042.53	0.191	0.00	0.32	0.24	3.64	(0.02)	0.071
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	895.09	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	154.91	1100.40	0.141	0.00	0.21	0.16	2.51	(0.02)	0.064
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	435.63	1143.33	0.381	0.00	0.87	0.62	9.55	(0.02)	0.085
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	53.04	1211.35	0.044	0.00	0.06	0.05	0.70	(0.02)	0.052
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	397.35	1125.81	0.353	0.00	0.76	0.55	8.45	(0.02)	0.083
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	260.49	1571.46	0.166	0.00	0.25	0.20	3.03	(0.02)	0.046
6	**Southern Dumb-bell**	**Holyhead Road South**	167.13	1067.59	0.157	0.00	0.24	0.19	2.84	(0.02)	0.067
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	931.69	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Southern Dumb-bell**	**A5 Bridge**	129.66	1100.40	0.118	0.00	0.16	0.13	2.04	(0.02)	0.062
6	**Northern**	**A55 E/B On-**	(Exit-only)	(Exit-only)	(Exit-	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

	Dumb-bell	slip			only)						
6	Northern Dumb-bell	A5 Bridge	364.72	1143.33	0.319	0.00	0.62	0.47	7.23	(0.02)	0.077
6	Northern Dumb-bell	A55 E/B Off-slip	44.42	1249.25	0.036	0.00	0.05	0.04	0.56	(0.02)	0.050
6	Northern Dumb-bell	A5 Holyhead Road North	332.76	1129.91	0.295	0.00	0.55	0.42	6.43	(0.02)	0.075

A1 - (Default Analysis Set) - D9 - Base+Com 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, Sat	Base+Com 2032	Sat			Yes			12:00	13:30	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	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
Southern Dumb-bell	A55 W/B Off-slip	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	Holyhead Road South	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	A55 W/B On-slip	2.50	6.00	8.00	15.50	59.50	45.00	
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	A5 Bridge	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	A5 Bridge	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	A55 E/B Off-slip	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	A5 Holyhead Road North	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	A55 W/B Off-slip	None
Southern Dumb-bell	Holyhead Road South	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A5 Bridge	None
Northern Dumb-bell	A55 E/B On-slip	None
Northern Dumb-bell	A5 Bridge	None
Northern Dumb-bell	A55 E/B Off-slip	None
Northern Dumb-bell	A5 Holyhead Road North	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	Holyhead Road South		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge		((calculated))	((calculated))	0.447	1100.405

Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	284.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	109.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	0.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	43.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	326.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout	From Arm	Limit Queue To	Limit Capacity To	Ignore Random	Internal Storage Space

		ID	ID	Storage	Downstream	Queue	(PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Southern Dumb-bell**	**A55 W/B Off-slip**	213.81	213.81	N/A	N/A
1	**Southern Dumb-bell**	**Holyhead Road South**	82.06	82.06	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	32.37	N/A	N/A
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	245.43	245.43	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	255.31	255.31	N/A	N/A
2	**Southern Dumb-bell**	**Holyhead Road South**	97.99	97.99	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	38.66	N/A	N/A
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	293.07	293.07	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	312.69	312.69	N/A	N/A
3	**Southern Dumb-bell**	**Holyhead Road South**	120.01	120.01	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A

3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	47.34	N/A	N/A
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	358.93	358.93	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	312.69	312.69	N/A	N/A
4	**Southern Dumb-bell**	**Holyhead Road South**	120.01	120.01	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	47.34	N/A	N/A
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	358.93	358.93	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	255.31	255.31	N/A	N/A
5	**Southern Dumb-bell**	**Holyhead Road South**	97.99	97.99	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	38.66	N/A	N/A
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	293.07	293.07	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	213.81	213.81	N/A	N/A
6	**Southern Dumb-bell**	**Holyhead Road South**	82.06	82.06	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
6	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	32.37	N/A	N/A
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	245.43	245.43	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	7.000	8.000	0.000	269.000
	2	0.000	0.000	0.000	38.000	71.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	91.000	1.000	14.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.00	0.02	0.03	0.00	0.95
	2	0.00	0.00	0.00	0.35	0.65
	3	0.20	0.20	0.20	0.20	0.20
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.86	0.01	0.13	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	9.000	0.000	0.000	310.000
	3	0.000	21.000	0.000	22.000
	4	241.000	85.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.25	0.25	0.25	0.25
	2	0.03	0.00	0.00	0.97
	3	0.00	0.49	0.00	0.51
	4	0.74	0.26	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	0.20	0.05	0.25	A	260.60	390.91	17.70	0.05	0.20	17.70	0.05	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	0.12	0.07	0.13	A	100.02	150.03	9.33	0.06	0.10	9.34	0.06	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	0.11	0.06	0.12	A	97.21	145.82	8.70	0.06	0.10	8.70	0.06	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)		only)						only)	
Northern Dumb-bell	**A5 Bridge**	0.33	0.08	0.48	A	311.86	467.78	33.93	0.07	0.38	33.93	0.07	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	0.04	0.05	0.04	A	39.46	59.19	2.87	0.05	0.03	2.87	0.05	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	0.32	0.08	0.46	A	299.14	448.71	32.29	0.07	0.36	32.29	0.07	0.487	1150.984

Main Results

Main results: (12:00-12:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	213.81	53.45	213.19	0.00	79.16	0.00	1599.14	670.61	0.134	0.00	0.15
Southern Dumb-bell	**Holyhead Road South**	82.06	20.52	81.74	73.21	219.14	0.00	1089.96	374.64	0.075	0.00	0.08
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	6.75	294.13	0.00	990.11	266.52	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	38.95	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	79.47	19.87	79.16	255.18	0.00	0.00	1100.40	997.67	0.072	0.00	0.08
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	187.80	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	255.18	63.79	254.03	79.47	0.00	0.00	1143.33	977.16	0.223	0.00	0.29
Northern Dumb-bell	**A55 E/B Off-slip**	32.37	8.09	32.27	0.00	254.03	0.00	1308.42	792.49	0.025	0.00	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	245.43	61.36	244.34	263.38	22.93	0.00	1139.82	888.99	0.215	0.00	0.27

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	255.31	63.83	255.16	0.00	95.14	0.00	1590.40	674.36	0.161	0.15	0.19
Southern Dumb-bell	**Holyhead Road South**	97.99	24.50	97.91	87.96	262.34	0.00	1068.97	368.02	0.092	0.08	0.10
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.09	352.16	0.00	964.49	258.60	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	46.70	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	95.21	23.80	95.14	305.46	0.00	0.00	1100.40	995.60	0.087	0.08	0.09
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	225.05	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)	(Exit-only)

										only)		
Northern Dumb-bell	**A5 Bridge**	305.46	76.37	305.16	95.21	0.00	0.00	1143.33	977.16	0.267	0.29	0.36
Northern Dumb-bell	**A55 E/B Off-slip**	38.66	9.66	38.63	0.00	305.16	0.00	1281.24	792.49	0.030	0.03	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	293.07	73.27	292.78	316.31	27.48	0.00	1137.61	888.99	0.258	0.27	0.34

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	312.69	78.17	312.47	0.00	116.48	0.00	1578.74	678.28	0.198	0.19	0.25
Southern Dumb-bell	**Holyhead Road South**	120.01	30.00	119.89	107.70	321.25	0.00	1040.33	365.45	0.115	0.10	0.13
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	9.90	431.24	0.00	929.59	252.22	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	57.18	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	116.57	29.14	116.48	374.06	0.00	0.00	1100.40	998.66	0.106	0.09	0.12
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	275.55	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	374.06	93.52	373.58	116.57	0.00	0.00	1143.33	977.16	0.327	0.36	0.48
Northern Dumb-bell	**A55 E/B Off-slip**	47.34	11.84	47.31	0.00	373.58	0.00	1244.86	792.49	0.038	0.03	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	358.93	89.73	358.47	387.24	33.64	0.00	1134.61	888.99	0.316	0.34	0.46

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	312.69	78.17	312.69	0.00	116.70	0.00	1578.61	678.28	0.198	0.25	0.25
Southern Dumb-bell	**Holyhead Road South**	120.01	30.00	120.01	107.90	321.50	0.00	1040.21	365.45	0.115	0.13	0.13
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	9.91	431.60	0.00	929.44	252.22	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	57.25	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	116.71	29.18	116.70	374.34	0.00	0.00	1100.40	998.66	0.106	0.12	0.12
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	275.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	374.34	93.59	374.34	116.71	0.00	0.00	1143.33	977.16	0.327	0.48	0.48

Northern Dumb-bell	**A55 E/B Off-slip**	47.34	11.84	47.34	0.00	374.34	0.00	1244.46	792.49	0.038	0.04	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	358.93	89.73	358.93	388.00	33.68	0.00	1134.59	888.99	0.316	0.46	0.46

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	255.31	63.83	255.53	0.00	95.52	0.00	1590.20	674.36	0.161	0.25	0.19
Southern Dumb-bell	**Holyhead Road South**	97.99	24.50	98.10	88.30	262.75	0.00	1068.77	368.02	0.092	0.13	0.10
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.10	352.75	0.00	964.23	258.60	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	46.82	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	95.42	23.86	95.52	305.93	0.00	0.00	1100.40	995.60	0.087	0.12	0.10
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	225.63	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	305.93	76.48	306.40	95.42	0.00	0.00	1143.33	977.16	0.268	0.48	0.37
Northern Dumb-bell	**A55 E/B Off-slip**	38.66	9.66	38.69	0.00	306.40	0.00	1280.57	792.49	0.030	0.04	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	293.07	73.27	293.51	317.55	27.54	0.00	1137.58	888.99	0.258	0.46	0.35

Main results: (13:15-13:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	213.81	53.45	213.96	0.00	79.96	0.00	1598.70	671.46	0.134	0.19	0.15
Southern Dumb-bell	**Holyhead Road South**	82.06	20.52	82.14	73.92	220.00	0.00	1089.55	369.95	0.075	0.10	0.08
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	6.78	295.36	0.00	989.56	263.31	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	39.20	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	79.89	19.97	79.96	256.16	0.00	0.00	1100.40	993.35	0.073	0.10	0.08
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	188.89	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	256.16	64.04	256.47	79.89	0.00	0.00	1143.33	977.16	0.224	0.37	0.29
Northern Dumb-bell	**A55 E/B Off-slip**	32.37	8.09	32.40	0.00	256.47	0.00	1307.12	792.49	0.025	0.03	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	245.43	61.36	245.72	265.81	23.06	0.00	1139.76	888.99	0.215	0.35	0.28

Queueing Delay Results

Queueing Delay results: (12:00-12:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.27	0.15	0.043	A	A
Southern Dumb-bell	Holyhead Road South	1.19	0.08	0.060	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.14	0.08	0.059	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.18	0.28	0.067	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.37	0.02	0.047	A	A
Northern Dumb-bell	A5 Holyhead Road North	4.00	0.27	0.067	A	A

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.83	0.19	0.045	A	A
Southern Dumb-bell	Holyhead Road South	1.49	0.10	0.062	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.40	0.09	0.060	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	5.34	0.36	0.072	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.46	0.03	0.048	A	A
Northern Dumb-bell	A5 Holyhead Road North	5.09	0.34	0.071	A	A

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	3.65	0.24	0.047	A	A
Southern Dumb-bell	Holyhead Road South	1.92	0.13	0.065	A	A

Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.75	0.12	0.061	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	7.10	0.47	0.078	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.58	0.04	0.050	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.76	0.45	0.077	A	A

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.69	0.25	0.047	A	A
Southern Dumb-bell	**Holyhead Road South**	1.95	0.13	0.065	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.77	0.12	0.061	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	7.26	0.48	0.078	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.59	0.04	0.050	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.91	0.46	0.077	A	A

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.91	0.19	0.045	A	A
Southern Dumb-bell	**Holyhead Road South**	1.54	0.10	0.062	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.45	0.10	0.060	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	5.62	0.37	0.072	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.47	0.03	0.048	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	5.34	0.36	0.071	A	A

Queueing Delay results: (13:15-13:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.35	0.16	0.043	A	A
Southern Dumb-bell	Holyhead Road South	1.24	0.08	0.060	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.19	0.08	0.059	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.43	0.30	0.068	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.39	0.03	0.047	A	A
Northern Dumb-bell	A5 Holyhead Road North	4.21	0.28	0.067	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	Holyhead Road South	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	A55 E/B Off-slip	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472

Northern Dumb-bell	A5 Holyhead Road North	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Southern Dumb-bell	A55 W/B Off-slip	213.81	1599.14	0.134	0.00	0.00	0.15	2.27	(0.02)	0.043
1	Southern Dumb-bell	Holyhead Road South	82.06	1089.96	0.075	0.00	0.00	0.08	1.19	(0.02)	0.060
1	Southern Dumb-bell	A55 W/B On-slip	0.00	990.11	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Southern Dumb-bell	A5 Bridge	79.47	1100.40	0.072	0.00	0.00	0.08	1.14	(0.02)	0.059
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Northern Dumb-bell	A5 Bridge	255.18	1143.33	0.223	0.00	0.00	0.29	4.18	(0.02)	0.067
1	Northern Dumb-bell	A55 E/B Off-slip	32.37	1308.42	0.025	0.00	0.00	0.03	0.37	(0.02)	0.047
1	Northern Dumb-bell	A5 Holyhead Road North	245.43	1139.82	0.215	0.00	0.00	0.27	4.00	(0.02)	0.067
2	Southern Dumb-bell	A55 W/B Off-slip	255.31	1590.40	0.161	0.00	0.15	0.19	2.83	(0.02)	0.045
2	Southern Dumb-bell	Holyhead Road South	97.99	1068.97	0.092	0.00	0.08	0.10	1.49	(0.02)	0.062
2	Southern Dumb-bell	A55 W/B On-slip	0.00	964.49	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Southern Dumb-bell**	**A5 Bridge**	95.21	1100.40	0.087	0.00	0.08	0.09	1.40	(0.02)	0.060
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Northern Dumb-bell**	**A5 Bridge**	305.46	1143.33	0.267	0.00	0.29	0.36	5.34	(0.02)	0.072
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	1281.24	0.030	0.00	0.03	0.03	0.46	(0.02)	0.048
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	293.07	1137.61	0.258	0.00	0.27	0.34	5.09	(0.02)	0.071
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	312.69	1578.74	0.198	0.00	0.19	0.25	3.65	(0.02)	0.047
3	**Southern Dumb-bell**	**Holyhead Road South**	120.01	1040.33	0.115	0.00	0.10	0.13	1.92	(0.02)	0.065
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	929.59	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	116.57	1100.40	0.106	0.00	0.09	0.12	1.75	(0.02)	0.061
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	374.06	1143.33	0.327	0.00	0.36	0.48	7.10	(0.02)	0.078
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	1244.86	0.038	0.00	0.03	0.04	0.58	(0.02)	0.050
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	358.93	1134.61	0.316	0.00	0.34	0.46	6.76	(0.02)	0.077
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	312.69	1578.61	0.198	0.00	0.25	0.25	3.69	(0.02)	0.047
4	**Southern Dumb-bell**	**Holyhead Road South**	120.01	1040.21	0.115	0.00	0.13	0.13	1.95	(0.02)	0.065
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	929.44	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

4	**Southern Dumb-bell**	**A5 Bridge**	116.71	1100.40	0.106	0.00	0.12	0.12	1.77	(0.02)	0.061
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Northern Dumb-bell**	**A5 Bridge**	374.34	1143.33	0.327	0.00	0.48	0.48	7.26	(0.02)	0.078
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	1244.46	0.038	0.00	0.04	0.04	0.59	(0.02)	0.050
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	358.93	1134.59	0.316	0.00	0.46	0.46	6.91	(0.02)	0.077
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	255.31	1590.20	0.161	0.00	0.25	0.19	2.91	(0.02)	0.045
5	**Southern Dumb-bell**	**Holyhead Road South**	97.99	1068.77	0.092	0.00	0.13	0.10	1.54	(0.02)	0.062
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	964.23	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	95.42	1100.40	0.087	0.00	0.12	0.10	1.45	(0.02)	0.060
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	305.93	1143.33	0.268	0.00	0.48	0.37	5.62	(0.02)	0.072
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	1280.57	0.030	0.00	0.04	0.03	0.47	(0.02)	0.048
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	293.07	1137.58	0.258	0.00	0.46	0.35	5.34	(0.02)	0.071
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	213.81	1598.70	0.134	0.00	0.19	0.15	2.35	(0.02)	0.043
6	**Southern Dumb-bell**	**Holyhead Road South**	82.06	1089.55	0.075	0.00	0.10	0.08	1.24	(0.02)	0.060
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	989.56	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

6	**Southern Dumb-bell**	**A5 Bridge**	79.89	1100.40	0.073	0.00	0.10	0.08	1.19	(0.02)	0.059
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Northern Dumb-bell**	**A5 Bridge**	256.16	1143.33	0.224	0.00	0.37	0.29	4.43	(0.02)	0.068
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	1307.12	0.025	0.00	0.03	0.03	0.39	(0.02)	0.047
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	245.43	1139.76	0.215	0.00	0.35	0.28	4.21	(0.02)	0.067

A1 - (Default Analysis Set) - D13 - Base+Com+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, AM	Base+Com+Dev 2032	AM			Yes			08:15	09:45	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00

Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00	
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	**A55 W/B Off-slip**	None
Southern Dumb-bell	**Holyhead Road South**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B On-slip**	None
Northern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B Off-slip**	None
Northern Dumb-bell	**A5 Holyhead Road North**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)

Southern Dumb-bell	**A55 W/B Off-slip**		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	242.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	192.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	1.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A

Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	75.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	452.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Southern Dumb-bell**	**A55 W/B Off-slip**	182.19	182.19	N/A	N/A
1	**Southern Dumb-bell**	**Holyhead Road South**	144.55	144.55	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B Off-slip**	56.46	56.46	N/A	N/A
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	340.29	340.29	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	217.55	217.55	N/A	N/A
2	**Southern Dumb-bell**	**Holyhead Road South**	172.60	172.60	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	67.42	67.42	N/A	N/A
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	406.34	406.34	N/A	N/A

3	**Southern Dumb-bell**	**A55 W/B Off-slip**	266.45	266.45	N/A	N/A
3	**Southern Dumb-bell**	**Holyhead Road South**	211.40	211.40	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	82.58	N/A	N/A
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	497.66	497.66	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	266.45	266.45	N/A	N/A
4	**Southern Dumb-bell**	**Holyhead Road South**	211.40	211.40	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	82.58	N/A	N/A
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	497.66	497.66	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	217.55	217.55	N/A	N/A
5	**Southern Dumb-bell**	**Holyhead Road South**	172.60	172.60	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	67.42	67.42	N/A	N/A
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	406.34	406.34	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	182.19	182.19	N/A	N/A
6	**Southern Dumb-bell**	**Holyhead Road South**	144.55	144.55	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
6	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A

6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	56.46	56.46	N/A	N/A
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	340.29	340.29	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	0.000	0.000	0.000	0.000	242.000
	2	0.000	0.000	0.000	69.000	123.000
	3	0.000	1.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	205.000	0.000	20.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	0.00	0.00	0.00	0.00	1.00
	2	0.00	0.00	0.00	0.36	0.64
	3	0.00	1.00	0.00	0.00	0.00
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.91	0.00	0.09	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
From		**1**	**2**	**3**	**4**

	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	7.000	0.000	0.000	316.000
	3	0.000	61.000	0.000	14.000
	4	289.000	163.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.25	0.25	0.25	0.25
	2	0.02	0.00	0.00	0.98
	3	0.00	0.81	0.00	0.19
	4	0.64	0.36	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
From		**1**	**2**	**3**	**4**	**5**

	1	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay	Max Queue	Max LOS	Total Demand	Total Arrivals	Total Queueing	Average Queueing	Rate Of Queueing	Inclusive Queueing	Inclusive Queueing	Slope	Intercept (PCU/hr)

			(min)	(PCU)		(PCU/hr)	(PCU)	Delay (PCU-min)	Delay (min)	Delay (PCU-min/min)	Total Delay (PCU-min)	Average Delay (min)		
Southern Dumb-bell	**A55 W/B Off-slip**	0.18	0.05	0.21	A	222.06	333.10	15.33	0.05	0.17	15.33	0.05	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	0.20	0.07	0.25	A	176.18	264.27	17.63	0.07	0.20	17.63	0.07	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	0.22	0.07	0.29	A	205.42	308.12	20.67	0.07	0.23	20.67	0.07	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	0.35	0.08	0.54	A	334.78	502.16	37.50	0.07	0.42	37.51	0.07	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	0.07	0.05	0.07	A	68.82	103.23	5.19	0.05	0.06	5.19	0.05	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	0.45	0.10	0.80	A	414.76	622.14	53.71	0.09	0.60	53.71	0.09	0.487	1150.984

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	182.19	45.55	181.66	0.00	167.15	0.00	1551.03	694.76	0.117	0.00	0.13
Southern Dumb-bell	**Holyhead Road South**	144.55	36.14	143.95	152.30	196.52	0.00	1100.96	455.71	0.131	0.00	0.15
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	340.46	0.00	969.66	575.34	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	66.59	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	167.87	41.97	167.15	273.88	0.00	0.00	1100.40	825.15	0.153	0.00	0.18
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	222.38	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	273.88	68.47	272.62	167.87	0.00	0.00	1143.33	1027.83	0.240	0.00	0.31
Northern Dumb-bell	**A55 E/B Off-slip**	56.46	14.12	56.28	0.00	272.62	0.00	1298.53	604.10	0.043	0.00	0.05
Northern Dumb-bell	**A5 Holyhead Road North**	340.29	85.07	338.57	277.22	51.68	0.00	1125.83	644.46	0.302	0.00	0.43

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

Roundabout	Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating	Pedestrian	Capacity	Saturation	RFC	Start	End

		(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	Flow (PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)		Queue (PCU)	Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	217.55	54.39	217.42	0.00	200.97	0.00	1532.54	686.92	0.142	0.13	0.16
Southern Dumb-bell	**Holyhead Road South**	172.60	43.15	172.45	183.11	235.29	0.00	1082.12	434.21	0.160	0.15	0.19
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	407.74	0.00	939.97	587.72	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	79.84	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	201.14	50.29	200.97	327.90	0.00	0.00	1100.40	815.79	0.183	0.18	0.22
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	266.56	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	327.90	81.98	327.55	201.14	0.00	0.00	1143.33	1006.74	0.287	0.31	0.40
Northern Dumb-bell	**A55 E/B Off-slip**	67.42	16.86	67.38	0.00	327.55	0.00	1269.33	531.87	0.053	0.05	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	406.34	101.58	405.80	333.03	61.90	0.00	1120.85	739.87	0.363	0.43	0.56

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	266.45	66.61	266.25	0.00	245.98	0.00	1507.93	688.23	0.177	0.16	0.21
Southern Dumb-bell	**Holyhead Road South**	211.40	52.85	211.16	224.12	288.12	0.00	1056.43	435.06	0.200	0.19	0.25
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	499.27	0.00	899.57	587.01	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	97.75	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	246.24	61.56	245.98	401.52	0.00	0.00	1100.40	817.37	0.224	0.22	0.29
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	326.29	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	401.52	100.38	400.97	246.24	0.00	0.00	1143.33	1007.98	0.351	0.40	0.54
Northern Dumb-bell	**A55 E/B Off-slip**	82.58	20.64	82.51	0.00	400.97	0.00	1230.29	529.10	0.067	0.06	0.07
Northern Dumb-bell	**A5 Holyhead Road North**	497.66	124.42	496.72	407.69	75.80	0.00	1114.09	752.73	0.447	0.56	0.80

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	266.45	66.61	266.45	0.00	246.62	0.00	1507.59	688.23	0.177	0.21	0.21

Southern Dumb-bell	**Holyhead Road South**	211.40	52.85	211.39	224.70	288.37	0.00	1056.31	435.06	0.200	0.25	0.25
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	499.76	0.00	899.35	587.01	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	97.89	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	246.62	61.66	246.62	401.87	0.00	0.00	1100.40	817.37	0.224	0.29	0.29
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	326.89	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	401.87	100.47	401.86	246.62	0.00	0.00	1143.33	1007.98	0.351	0.54	0.54
Northern Dumb-bell	**A55 E/B Off-slip**	82.58	20.64	82.58	0.00	401.86	0.00	1229.82	529.10	0.067	0.07	0.07
Northern Dumb-bell	**A5 Holyhead Road North**	497.66	124.42	497.64	408.56	75.87	0.00	1114.05	752.73	0.447	0.80	0.80

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	217.55	54.39	217.75	0.00	202.00	0.00	1531.98	686.92	0.142	0.21	0.17
Southern Dumb-bell	**Holyhead Road South**	172.60	43.15	172.84	184.05	235.70	0.00	1081.91	434.21	0.160	0.25	0.19
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	408.54	0.00	939.61	587.71	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	80.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	201.75	50.44	202.00	328.47	0.00	0.00	1100.40	815.79	0.183	0.29	0.23
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	267.52	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	328.47	82.12	329.01	201.75	0.00	0.00	1143.33	1006.74	0.287	0.54	0.41
Northern Dumb-bell	**A55 E/B Off-slip**	67.42	16.86	67.49	0.00	329.01	0.00	1268.56	531.87	0.053	0.07	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	406.34	101.58	407.26	334.47	62.02	0.00	1120.80	739.87	0.363	0.80	0.57

Main results: (09:30-09:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	182.19	45.55	182.32	0.00	169.05	0.00	1550.00	685.97	0.118	0.17	0.13
Southern Dumb-bell	**Holyhead Road South**	144.55	36.14	144.70	154.02	197.35	0.00	1100.56	433.58	0.131	0.19	0.15
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	342.05	0.00	968.96	588.22	0.000	0.00	0.00

Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	67.03	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	168.87	42.22	169.05	275.02	0.00	0.00	1100.40	814.62	0.153	0.23	0.18
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	223.89	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	275.02	68.76	275.37	168.87	0.00	0.00	1143.33	1005.85	0.241	0.41	0.32
Northern Dumb-bell	**A55 E/B Off-slip**	56.46	14.12	56.51	0.00	275.37	0.00	1297.07	534.31	0.044	0.06	0.05
Northern Dumb-bell	**A5 Holyhead Road North**	340.29	85.07	340.84	279.95	51.93	0.00	1125.71	729.52	0.302	0.57	0.44

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	1.96	0.13	0.044	A	A
Southern Dumb-bell	**Holyhead Road South**	2.21	0.15	0.063	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.63	0.18	0.064	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.58	0.31	0.069	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.67	0.04	0.048	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.27	0.42	0.076	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.45	0.16	0.046	A	A
Southern Dumb-bell	**Holyhead Road South**	2.79	0.19	0.066	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.29	0.22	0.067	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Northern Dumb-bell	**A5 Bridge**	5.89	0.39	0.074	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.83	0.06	0.050	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	8.28	0.55	0.084	A	A

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.17	0.21	0.048	A	A
Southern Dumb-bell	**Holyhead Road South**	3.67	0.24	0.071	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	4.23	0.28	0.070	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	7.88	0.53	0.081	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	1.06	0.07	0.052	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	11.65	0.78	0.097	A	A

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.21	0.21	0.048	A	A
Southern Dumb-bell	**Holyhead Road South**	3.74	0.25	0.071	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	4.31	0.29	0.070	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	8.08	0.54	0.081	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	1.08	0.07	0.052	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	12.01	0.80	0.097	A	A

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service

Southern Dumb-bell	**A55 W/B Off-slip**	2.52	0.17	0.046	A	A
Southern Dumb-bell	**Holyhead Road South**	2.91	0.19	0.066	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.44	0.23	0.067	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	6.21	0.41	0.074	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.85	0.06	0.050	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	8.82	0.59	0.084	A	A

Queueing Delay results: (09:30-09:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.03	0.14	0.044	A	A
Southern Dumb-bell	**Holyhead Road South**	2.31	0.15	0.063	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.77	0.18	0.064	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.86	0.32	0.069	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.69	0.05	0.048	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.68	0.45	0.076	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	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	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500

Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Southern Dumb-bell**	**A55 W/B Off-slip**	182.19	1551.03	0.117	0.00	0.00	0.13	1.96	(0.02)	0.044
1	**Southern Dumb-bell**	**Holyhead Road South**	144.55	1100.96	0.131	0.00	0.00	0.15	2.21	(0.02)	0.063
1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	969.66	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Southern Dumb-bell**	**A5 Bridge**	167.87	1100.40	0.153	0.00	0.00	0.18	2.63	(0.02)	0.064
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Northern Dumb-bell**	**A5 Bridge**	273.88	1143.33	0.240	0.00	0.00	0.31	4.58	(0.02)	0.069

1	**Northern Dumb-bell**	**A55 E/B Off-slip**	56.46	1298.53	0.043	0.00	0.00	0.05	0.67	(0.02)	0.048
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	340.29	1125.83	0.302	0.00	0.00	0.43	6.27	(0.02)	0.076
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	217.55	1532.54	0.142	0.00	0.13	0.16	2.45	(0.02)	0.046
2	**Southern Dumb-bell**	**Holyhead Road South**	172.60	1082.12	0.160	0.00	0.15	0.19	2.79	(0.02)	0.066
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	939.97	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Southern Dumb-bell**	**A5 Bridge**	201.14	1100.40	0.183	0.00	0.18	0.22	3.29	(0.02)	0.067
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Northern Dumb-bell**	**A5 Bridge**	327.90	1143.33	0.287	0.00	0.31	0.40	5.89	(0.02)	0.074
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	67.42	1269.33	0.053	0.00	0.05	0.06	0.83	(0.02)	0.050
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	406.34	1120.85	0.363	0.00	0.43	0.56	8.28	(0.02)	0.084
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	266.45	1507.93	0.177	0.00	0.16	0.21	3.17	(0.02)	0.048
3	**Southern Dumb-bell**	**Holyhead Road South**	211.40	1056.43	0.200	0.00	0.19	0.25	3.67	(0.02)	0.071
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	899.57	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	246.24	1100.40	0.224	0.00	0.22	0.29	4.23	(0.02)	0.070
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	401.52	1143.33	0.351	0.00	0.40	0.54	7.88	(0.02)	0.081

3	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	1230.29	0.067	0.00	0.06	0.07	1.06	(0.02)	0.052
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	497.66	1114.09	0.447	0.00	0.56	0.80	11.65	(0.02)	0.097
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	266.45	1507.59	0.177	0.00	0.21	0.21	3.21	(0.02)	0.048
4	**Southern Dumb-bell**	**Holyhead Road South**	211.40	1056.31	0.200	0.00	0.25	0.25	3.74	(0.02)	0.071
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	899.35	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Southern Dumb-bell**	**A5 Bridge**	246.62	1100.40	0.224	0.00	0.29	0.29	4.31	(0.02)	0.070
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Northern Dumb-bell**	**A5 Bridge**	401.87	1143.33	0.351	0.00	0.54	0.54	8.08	(0.02)	0.081
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	1229.82	0.067	0.00	0.07	0.07	1.08	(0.02)	0.052
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	497.66	1114.05	0.447	0.00	0.80	0.80	12.01	(0.02)	0.097
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	217.55	1531.98	0.142	0.00	0.21	0.17	2.52	(0.02)	0.046
5	**Southern Dumb-bell**	**Holyhead Road South**	172.60	1081.91	0.160	0.00	0.25	0.19	2.91	(0.02)	0.066
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	939.61	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	201.75	1100.40	0.183	0.00	0.29	0.23	3.44	(0.02)	0.067
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	328.47	1143.33	0.287	0.00	0.54	0.41	6.21	(0.02)	0.074

5	**Northern Dumb-bell**	**A55 E/B Off-slip**	67.42	1268.56	0.053	0.00	0.07	0.06	0.85	(0.02)	0.050
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	406.34	1120.80	0.363	0.00	0.80	0.57	8.82	(0.02)	0.084
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	182.19	1550.00	0.118	0.00	0.17	0.13	2.03	(0.02)	0.044
6	**Southern Dumb-bell**	**Holyhead Road South**	144.55	1100.56	0.131	0.00	0.19	0.15	2.31	(0.02)	0.063
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	968.96	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Southern Dumb-bell**	**A5 Bridge**	168.87	1100.40	0.153	0.00	0.23	0.18	2.77	(0.02)	0.064
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Northern Dumb-bell**	**A5 Bridge**	275.02	1143.33	0.241	0.00	0.41	0.32	4.86	(0.02)	0.069
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	56.46	1297.07	0.044	0.00	0.06	0.05	0.69	(0.02)	0.048
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	340.29	1125.71	0.302	0.00	0.57	0.44	6.68	(0.02)	0.076

A1 - (Default Analysis Set) - D14 - Base+Com+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, PM	Base+Com+Dev 2032	PM			Yes			15:30	17:00	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	0.00	99999.00		0.00
Southern Dumb-bell	Holyhead Road South	0.00	99999.00		0.00
Southern Dumb-bell	A55 W/B On-slip	0.00	99999.00		0.00
Southern Dumb-bell	A55 W/B On-slip	0.00	99999.00		0.00
Southern Dumb-bell	A5 Bridge	0.00	99999.00		0.00
Northern Dumb-bell	A55 E/B On-slip	0.00	99999.00		0.00
Northern Dumb-bell	A5 Bridge	0.00	99999.00		0.00
Northern Dumb-bell	A55 E/B Off-slip	0.00	99999.00		0.00
Northern Dumb-bell	A5 Holyhead Road North	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Southern Dumb-bell	A55 W/B Off-slip	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	Holyhead Road South	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	A55 W/B On-slip	2.50	6.00	8.00	15.50	59.50	45.00	
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	A5 Bridge	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	A5 Bridge	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	A55 E/B Off-slip	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	A5 Holyhead Road North	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	A55 W/B Off-slip	None
Southern Dumb-bell	Holyhead Road South	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A5 Bridge	None
Northern Dumb-bell	A55 E/B On-slip	None

Northern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B Off-slip**	None
Northern Dumb-bell	**A5 Holyhead Road North**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	A55 W/B Off-slip	ONE HOUR	Yes	397.00	100.000	N/A
Southern Dumb-bell	Holyhead Road South	ONE HOUR	Yes	222.00	100.000	N/A
Southern Dumb-bell	A55 W/B On-slip	ONE HOUR	Yes	4.00	100.000	N/A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	A5 Bridge	Linked Arm			N/A	N/A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	A5 Bridge	Linked Arm			N/A	N/A
Northern Dumb-bell	A55 E/B Off-slip	ONE HOUR	Yes	59.00	100.000	N/A
Northern Dumb-bell	A5 Holyhead Road North	ONE HOUR	Yes	475.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Southern Dumb-bell	A5 Bridge	2	2	Yes			12.00
Northern Dumb-bell	A5 Bridge	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Southern Dumb-bell	A55 W/B Off-slip	298.88	298.88	N/A	N/A
1	Southern Dumb-bell	Holyhead Road South	167.13	167.13	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B Off-slip	44.42	44.42	N/A	N/A
1	Northern Dumb-bell	A5 Holyhead Road North	357.60	357.60	N/A	N/A
2	Southern Dumb-bell	A55 W/B Off-slip	356.89	356.89	N/A	N/A

2	**Southern Dumb-bell**	**Holyhead Road South**	199.57	199.57	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	53.04	53.04	N/A	N/A
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	427.02	427.02	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	437.11	437.11	N/A	N/A
3	**Southern Dumb-bell**	**Holyhead Road South**	244.43	244.43	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	64.96	N/A	N/A
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	522.98	522.98	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	437.11	437.11	N/A	N/A
4	**Southern Dumb-bell**	**Holyhead Road South**	244.43	244.43	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	64.96	N/A	N/A
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	522.98	522.98	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	356.89	356.89	N/A	N/A
5	**Southern Dumb-bell**	**Holyhead Road South**	199.57	199.57	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A

5	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B Off-slip	53.04	53.04	N/A	N/A
5	Northern Dumb-bell	A5 Holyhead Road North	427.02	427.02	N/A	N/A
6	Southern Dumb-bell	A55 W/B Off-slip	298.88	298.88	N/A	N/A
6	Southern Dumb-bell	Holyhead Road South	167.13	167.13	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B Off-slip	44.42	44.42	N/A	N/A
6	Northern Dumb-bell	A5 Holyhead Road North	357.60	357.60	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	6.000	8.000	0.000	383.000
	2	0.000	0.000	0.000	70.000	152.000
	3	0.000	3.000	0.000	1.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	161.000	0.000	12.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.00	0.02	0.02	0.00	0.96
	2	0.00	0.00	0.00	0.32	0.68
	3	0.00	0.75	0.00	0.25	0.00

	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.93	0.00	0.07	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	Exit-only	Exit-only	Exit-only	Exit-only
	2	8.000	0.000	0.000	501.000
	3	0.000	49.000	0.000	10.000
	4	352.000	123.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.25	0.25	0.25	0.25
	2	0.02	0.00	0.00	0.98
	3	0.00	0.83	0.00	0.17
	4	0.74	0.26	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000

	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	0.28	0.05	0.40	A	364.29	546.44	27.71	0.05	0.31	27.71	0.05	0.547	1642.419
Southern Dumb-bell	Holyhead Road South	0.25	0.08	0.33	A	203.71	305.57	22.77	0.07	0.25	22.77	0.07	0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	0.17	0.07	0.21	A	157.73	236.59	15.05	0.06	0.17	15.05	0.06	0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	0.52	0.11	1.05	A	490.69	736.03	69.02	0.09	0.77	69.03	0.09	0.448	1143.326
Northern Dumb-bell	A55 E/B Off-slip	0.06	0.06	0.06	A	54.14	81.21	4.34	0.05	0.05	4.34	0.05	0.532	1443.472
Northern Dumb-bell	A5 Holyhead Road North	0.47	0.10	0.87	A	435.87	653.80	57.84	0.09	0.64	57.85	0.09	0.487	1150.984

Main Results

Main results: (15:30-15:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	298.88	74.72	297.95	0.00	128.36	0.00	1572.24	695.70	0.190	0.00	0.23
Southern Dumb-bell	Holyhead Road South	167.13	41.78	166.38	123.96	302.35	0.00	1049.51	436.39	0.159	0.00	0.19
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	6.00	462.72	0.00	915.70	598.45	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	61.37	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	128.89	32.22	128.36	401.36	0.00	0.00	1100.40	876.11	0.117	0.00	0.13
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	269.92	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	401.36	100.34	399.21	128.89	0.00	0.00	1143.33	1013.10	0.351	0.00	0.54

Northern Dumb-bell	**A55 E/B Off-slip**	44.42	11.10	44.27	0.00	399.21	0.00	1231.23	693.39	0.036	0.00	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	357.60	89.40	355.77	400.44	43.04	0.00	1130.03	710.36	0.316	0.00	0.46

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	356.89	89.22	356.65	0.00	154.32	0.00	1558.05	694.43	0.229	0.23	0.30
Southern Dumb-bell	**Holyhead Road South**	199.57	49.89	199.36	149.01	361.96	0.00	1020.53	414.56	0.196	0.19	0.24
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	7.19	554.13	0.00	875.35	608.28	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	73.57	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	154.44	38.61	154.32	480.57	0.00	0.00	1100.40	870.74	0.140	0.13	0.16
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	323.55	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	480.57	120.14	479.84	154.44	0.00	0.00	1143.33	996.82	0.420	0.54	0.72
Northern Dumb-bell	**A55 E/B Off-slip**	53.04	13.26	53.00	0.00	479.84	0.00	1188.36	641.10	0.045	0.04	0.05
Northern Dumb-bell	**A5 Holyhead Road North**	427.02	106.75	426.43	481.29	51.56	0.00	1125.89	812.15	0.379	0.46	0.61

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	437.11	109.28	436.71	0.00	188.88	0.00	1539.14	697.16	0.284	0.30	0.39
Southern Dumb-bell	**Holyhead Road South**	244.43	61.11	244.08	182.38	443.21	0.00	981.03	412.33	0.249	0.24	0.33
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.80	678.49	0.00	820.47	608.55	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	90.06	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	189.06	47.26	188.88	588.42	0.00	0.00	1100.40	872.70	0.172	0.16	0.21
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	396.02	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	588.42	147.11	587.11	189.06	0.00	0.00	1143.33	996.77	0.515	0.72	1.05
Northern Dumb-bell	**A55 E/B Off-slip**	64.96	16.24	64.90	0.00	587.11	0.00	1131.33	642.15	0.057	0.05	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	522.98	130.75	521.95	588.89	63.13	0.00	1120.25	815.64	0.467	0.61	0.87

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	437.11	109.28	437.10	0.00	189.37	0.00	1538.89	697.15	0.284	0.39	0.40
Southern Dumb-bell	Holyhead Road South	244.43	61.11	244.42	182.84	443.63	0.00	980.83	412.33	0.249	0.33	0.33
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	8.81	679.24	0.00	820.14	608.55	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	90.21	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	189.37	47.34	189.37	589.04	0.00	0.00	1100.40	872.70	0.172	0.21	0.21
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	396.80	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	589.04	147.26	589.00	189.37	0.00	0.00	1143.33	996.77	0.515	1.05	1.05
Northern Dumb-bell	A55 E/B Off-slip	64.96	16.24	64.96	0.00	589.00	0.00	1130.33	642.15	0.057	0.06	0.06
Northern Dumb-bell	A5 Holyhead Road North	522.98	130.75	522.96	590.76	63.21	0.00	1120.22	815.64	0.467	0.87	0.87

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	356.89	89.22	357.28	0.00	155.10	0.00	1557.62	694.42	0.229	0.40	0.30
Southern Dumb-bell	Holyhead Road South	199.57	49.89	199.92	149.74	362.64	0.00	1020.20	414.56	0.196	0.33	0.24
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	7.20	555.36	0.00	874.81	608.28	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	73.80	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	154.93	38.73	155.10	481.56	0.00	0.00	1100.40	870.74	0.141	0.21	0.16
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	324.78	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	481.56	120.39	482.84	154.93	0.00	0.00	1143.33	996.82	0.421	1.05	0.74
Northern Dumb-bell	A55 E/B Off-slip	53.04	13.26	53.10	0.00	482.84	0.00	1186.77	641.10	0.045	0.06	0.05
Northern Dumb-bell	A5 Holyhead Road North	427.02	106.75	428.03	484.25	51.69	0.00	1125.83	812.15	0.379	0.87	0.62

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand	Capacity (PCU/hr)	Saturation Capacity	RFC	Start Queue	End Queue

							(Ped/hr)		(PCU/hr)		(PCU)	(PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	298.88	74.72	299.13	0.00	129.80	0.00	1571.45	692.37	0.190	0.30	0.24
Southern Dumb-bell	**Holyhead Road South**	167.13	41.78	167.35	125.32	303.62	0.00	1048.90	416.24	0.159	0.24	0.19
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	6.03	464.94	0.00	914.72	608.08	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	61.77	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	129.68	32.42	129.80	403.17	0.00	0.00	1100.40	869.28	0.118	0.16	0.13
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	271.80	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	403.17	100.79	403.91	129.68	0.00	0.00	1143.33	996.85	0.353	0.74	0.55
Northern Dumb-bell	**A55 E/B Off-slip**	44.42	11.10	44.46	0.00	403.91	0.00	1228.73	640.66	0.036	0.05	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	357.60	89.40	358.21	405.10	43.27	0.00	1129.92	808.45	0.316	0.62	0.47

Queueing Delay Results

Queueing Delay results: (15:30-15:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.45	0.23	0.047	A	A
Southern Dumb-bell	**Holyhead Road South**	2.76	0.18	0.068	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.94	0.13	0.062	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	7.80	0.52	0.080	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.55	0.04	0.051	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.70	0.45	0.077	A	A

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	4.38	0.29	0.050	A	A
Southern Dumb-bell	**Holyhead Road South**	3.57	0.24	0.073	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A

Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.40	0.16	0.063	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	10.51	0.70	0.090	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.69	0.05	0.053	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	8.88	0.59	0.086	A	A

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	5.83	0.39	0.054	A	A
Southern Dumb-bell	**Holyhead Road South**	4.85	0.32	0.081	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.05	0.20	0.066	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	15.17	1.01	0.108	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.90	0.06	0.056	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	12.60	0.84	0.100	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	5.93	0.40	0.054	A	A
Southern Dumb-bell	**Holyhead Road South**	4.95	0.33	0.081	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.10	0.21	0.066	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	15.77	1.05	0.108	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.91	0.06	0.056	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	13.02	0.87	0.100	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	4.54	0.30	0.050	A	A
Southern Dumb-bell	Holyhead Road South	3.74	0.25	0.073	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	2.51	0.17	0.064	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	11.34	0.76	0.091	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.71	0.05	0.053	A	A
Northern Dumb-bell	A5 Holyhead Road North	9.49	0.63	0.086	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	3.58	0.24	0.047	A	A
Southern Dumb-bell	Holyhead Road South	2.90	0.19	0.068	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	2.04	0.14	0.062	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	8.43	0.56	0.081	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.57	0.04	0.051	A	A
Northern Dumb-bell	A5 Holyhead Road North	7.14	0.48	0.078	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419

Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**Southern Dumb-bell**	**A55 W/B Off-slip**	298.88	1572.24	0.190	0.00	0.00	0.23	3.45	(0.02)	0.047
1	**Southern Dumb-bell**	**Holyhead Road South**	167.13	1049.51	0.159	0.00	0.00	0.19	2.76	(0.02)	0.068
1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	915.70	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Southern Dumb-bell**	**A5 Bridge**	128.89	1100.40	0.117	0.00	0.00	0.13	1.94	(0.02)	0.062
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

1	**Northern Dumb-bell**	**A5 Bridge**	401.36	1143.33	0.351	0.00	0.00	0.54	7.80	(0.02)	0.080
1	**Northern Dumb-bell**	**A55 E/B Off-slip**	44.42	1231.23	0.036	0.00	0.00	0.04	0.55	(0.02)	0.051
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	357.60	1130.03	0.316	0.00	0.00	0.46	6.70	(0.02)	0.077
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	356.89	1558.05	0.229	0.00	0.23	0.30	4.38	(0.02)	0.050
2	**Southern Dumb-bell**	**Holyhead Road South**	199.57	1020.53	0.196	0.00	0.19	0.24	3.57	(0.02)	0.073
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	875.35	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Southern Dumb-bell**	**A5 Bridge**	154.44	1100.40	0.140	0.00	0.13	0.16	2.40	(0.02)	0.063
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Northern Dumb-bell**	**A5 Bridge**	480.57	1143.33	0.420	0.00	0.54	0.72	10.51	(0.02)	0.090
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	53.04	1188.36	0.045	0.00	0.04	0.05	0.69	(0.02)	0.053
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	427.02	1125.89	0.379	0.00	0.46	0.61	8.88	(0.02)	0.086
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	437.11	1539.14	0.284	0.00	0.30	0.39	5.83	(0.02)	0.054
3	**Southern Dumb-bell**	**Holyhead Road South**	244.43	981.03	0.249	0.00	0.24	0.33	4.85	(0.02)	0.081
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	820.47	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	189.06	1100.40	0.172	0.00	0.16	0.21	3.05	(0.02)	0.066
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

3	**Northern Dumb-bell**	**A5 Bridge**	588.42	1143.33	0.515	0.00	0.72	1.05	15.17	(0.02)	0.108
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	1131.33	0.057	0.00	0.05	0.06	0.90	(0.02)	0.056
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	522.98	1120.25	0.467	0.00	0.61	0.87	12.60	(0.02)	0.100
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	437.11	1538.89	0.284	0.00	0.39	0.40	5.93	(0.02)	0.054
4	**Southern Dumb-bell**	**Holyhead Road South**	244.43	980.83	0.249	0.00	0.33	0.33	4.95	(0.02)	0.081
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	820.14	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Southern Dumb-bell**	**A5 Bridge**	189.37	1100.40	0.172	0.00	0.21	0.21	3.10	(0.02)	0.066
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Northern Dumb-bell**	**A5 Bridge**	589.04	1143.33	0.515	0.00	1.05	1.05	15.77	(0.02)	0.108
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	1130.33	0.057	0.00	0.06	0.06	0.91	(0.02)	0.056
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	522.98	1120.22	0.467	0.00	0.87	0.87	13.02	(0.02)	0.100
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	356.89	1557.62	0.229	0.00	0.40	0.30	4.54	(0.02)	0.050
5	**Southern Dumb-bell**	**Holyhead Road South**	199.57	1020.20	0.196	0.00	0.33	0.24	3.74	(0.02)	0.073
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	874.81	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	154.93	1100.40	0.141	0.00	0.21	0.16	2.51	(0.02)	0.064
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

5	**Northern Dumb-bell**	**A5 Bridge**	481.56	1143.33	0.421	0.00	1.05	0.74	11.34	(0.02)	0.091
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	53.04	1186.77	0.045	0.00	0.06	0.05	0.71	(0.02)	0.053
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	427.02	1125.83	0.379	0.00	0.87	0.62	9.49	(0.02)	0.086
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	298.88	1571.45	0.190	0.00	0.30	0.24	3.58	(0.02)	0.047
6	**Southern Dumb-bell**	**Holyhead Road South**	167.13	1048.90	0.159	0.00	0.24	0.19	2.90	(0.02)	0.068
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	914.72	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Southern Dumb-bell**	**A5 Bridge**	129.68	1100.40	0.118	0.00	0.16	0.13	2.04	(0.02)	0.062
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Northern Dumb-bell**	**A5 Bridge**	403.17	1143.33	0.353	0.00	0.74	0.55	8.43	(0.02)	0.081
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	44.42	1228.73	0.036	0.00	0.05	0.04	0.57	(0.02)	0.051
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	357.60	1129.92	0.316	0.00	0.62	0.47	7.14	(0.02)	0.078

A1 - (Default Analysis Set) - D15 - Base+Com+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis		Yes		(D1)		100.000	100.000	

Set)								

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, Sat	Base+Com+Dev 2032	Sat			Yes			12:00	13:30	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	

3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00	
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	**A55 W/B Off-slip**	None
Southern Dumb-bell	**Holyhead Road South**	None

Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B On-slip**	None
Northern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B Off-slip**	None
Northern Dumb-bell	**A5 Holyhead Road North**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	319.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	109.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	0.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	43.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	352.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Southern Dumb-bell**	**A55 W/B Off-slip**	240.16	240.16	N/A	N/A
1	**Southern Dumb-bell**	**Holyhead Road South**	82.06	82.06	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A

1	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	32.37	N/A	N/A
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	265.00	265.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	286.77	286.77	N/A	N/A
2	**Southern Dumb-bell**	**Holyhead Road South**	97.99	97.99	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	38.66	N/A	N/A
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	316.44	316.44	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	351.23	N/A	N/A
3	**Southern Dumb-bell**	**Holyhead Road South**	120.01	120.01	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	47.34	N/A	N/A
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	387.56	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	351.23	N/A	N/A
4	**Southern Dumb-bell**	**Holyhead Road South**	120.01	120.01	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	47.34	N/A	N/A
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	387.56	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	286.77	286.77	N/A	N/A
5	**Southern Dumb-bell**	**Holyhead Road South**	97.99	97.99	N/A	N/A

5	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B Off-slip	38.66	38.66	N/A	N/A
5	Northern Dumb-bell	A5 Holyhead Road North	316.44	316.44	N/A	N/A
6	Southern Dumb-bell	A55 W/B Off-slip	240.16	240.16	N/A	N/A
6	Southern Dumb-bell	Holyhead Road South	82.06	82.06	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B Off-slip	32.37	32.37	N/A	N/A
6	Northern Dumb-bell	A5 Holyhead Road North	265.00	265.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	7.000	8.000	0.000	304.000
	2	0.000	0.000	0.000	38.000	71.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	91.000	1.000	14.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

	To

		1	2	3	4	5
From	1	0.00	0.02	0.03	0.00	0.95
	2	0.00	0.00	0.00	0.35	0.65
	3	0.20	0.20	0.20	0.20	0.20
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.86	0.01	0.13	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	9.000	0.000	0.000	345.000
	3	0.000	21.000	0.000	22.000
	4	267.000	85.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.25	0.25	0.25	0.25
	2	0.03	0.00	0.00	0.97
	3	0.00	0.49	0.00	0.51
	4	0.76	0.24	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

	To

From		1	2	3	4	5
	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
From		1	2	3	4	5
	1	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

		To			
From		1	2	3	4
	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
From		1	2	3	4
	1	Exit-only	Exit-only	Exit-only	Exit-only

	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	0.22	0.05	0.29	A	292.72	439.08	20.39	0.05	0.23	20.40	0.05	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	0.12	0.07	0.13	A	100.02	150.03	9.49	0.06	0.11	9.49	0.06	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	0.11	0.06	0.12	A	97.21	145.82	8.70	0.06	0.10	8.70	0.06	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	0.36	0.08	0.56	A	343.96	515.94	39.00	0.08	0.43	39.00	0.08	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	0.04	0.05	0.04	A	39.46	59.19	2.91	0.05	0.03	2.91	0.05	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	0.34	0.08	0.52	A	323.00	484.50	35.93	0.07	0.40	35.94	0.07	0.487	1150.984

Main Results

Main results: (12:00-12:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	240.16	60.04	239.46	0.00	79.15	0.00	1599.14	668.26	0.150	0.00	0.18
Southern Dumb-bell	**Holyhead Road South**	82.06	20.52	81.73	73.21	245.40	0.00	1077.20	370.33	0.076	0.00	0.08
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	6.75	320.38	0.00	978.52	263.19	0.000	0.00	0.00

Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	38.95	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	79.46	19.87	79.15	281.43	0.00	0.00	1100.40	999.28	0.072	0.00	0.08
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	207.22	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	281.43	70.36	280.14	79.46	0.00	0.00	1143.33	974.75	0.246	0.00	0.32
Northern Dumb-bell	**A55 E/B Off-slip**	32.37	8.09	32.27	0.00	280.14	0.00	1294.54	791.87	0.025	0.00	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	265.00	66.25	263.80	289.52	22.88	0.00	1139.85	889.62	0.232	0.00	0.30

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	286.77	71.69	286.60	0.00	95.13	0.00	1590.41	673.51	0.180	0.18	0.22
Southern Dumb-bell	**Holyhead Road South**	97.99	24.50	97.91	87.96	293.78	0.00	1053.68	361.98	0.093	0.08	0.10
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.09	383.60	0.00	950.62	254.26	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	46.70	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	95.20	23.80	95.13	336.90	0.00	0.00	1100.40	997.69	0.087	0.08	0.09
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	248.34	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	336.90	84.23	336.54	95.20	0.00	0.00	1143.33	974.75	0.295	0.32	0.41
Northern Dumb-bell	**A55 E/B Off-slip**	38.66	9.66	38.63	0.00	336.54	0.00	1264.55	791.87	0.031	0.03	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	316.44	79.11	316.11	347.75	27.42	0.00	1137.64	889.62	0.278	0.30	0.38

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	351.23	87.81	350.96	0.00	116.47	0.00	1578.74	678.03	0.222	0.22	0.28
Southern Dumb-bell	**Holyhead Road South**	120.01	30.00	119.89	107.69	359.74	0.00	1021.61	358.72	0.117	0.10	0.13
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	9.90	469.73	0.00	912.60	247.47	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	57.18	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	116.56	29.14	116.47	412.55	0.00	0.00	1100.40	1000.98	0.106	0.09	0.12

Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	304.05	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	412.55	103.14	411.97	116.56	0.00	0.00	1143.33	974.75	0.361	0.41	0.56
Northern Dumb-bell	**A55 E/B Off-slip**	47.34	11.84	47.31	0.00	411.97	0.00	1224.45	791.87	0.039	0.03	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	387.56	96.89	387.03	425.70	33.58	0.00	1134.64	889.62	0.342	0.38	0.51

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	351.23	87.81	351.22	0.00	116.70	0.00	1578.61	678.03	0.222	0.28	0.29
Southern Dumb-bell	**Holyhead Road South**	120.01	30.00	120.01	107.90	360.03	0.00	1021.47	358.72	0.117	0.13	0.13
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	9.91	470.13	0.00	912.43	247.47	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	57.25	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	116.71	29.18	116.70	412.88	0.00	0.00	1100.40	1000.98	0.106	0.12	0.12
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	304.46	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	412.88	103.22	412.87	116.71	0.00	0.00	1143.33	974.75	0.361	0.56	0.56
Northern Dumb-bell	**A55 E/B Off-slip**	47.34	11.84	47.34	0.00	412.87	0.00	1223.97	791.87	0.039	0.04	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	387.56	96.89	387.55	426.59	33.62	0.00	1134.62	889.62	0.342	0.51	0.52

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	286.77	71.69	287.03	0.00	95.52	0.00	1590.19	673.51	0.180	0.29	0.22
Southern Dumb-bell	**Holyhead Road South**	97.99	24.50	98.11	88.31	294.25	0.00	1053.45	361.98	0.093	0.13	0.10
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.10	384.26	0.00	950.33	254.26	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	46.82	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	95.43	23.86	95.52	337.44	0.00	0.00	1100.40	997.69	0.087	0.12	0.10
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	249.01	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	337.44	84.36	338.01	95.43	0.00	0.00	1143.33	974.75	0.295	0.56	0.42

Northern Dumb-bell	A55 E/B Off-slip	38.66	9.66	38.69	0.00	338.01	0.00	1263.77	791.87	0.031	0.04	0.03
Northern Dumb-bell	A5 Holyhead Road North	316.44	79.11	316.96	349.21	27.49	0.00	1137.60	889.62	0.278	0.52	0.39

Main results: (13:15-13:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	240.16	60.04	240.33	0.00	79.96	0.00	1598.70	670.14	0.150	0.22	0.18
Southern Dumb-bell	Holyhead Road South	82.06	20.52	82.14	73.92	246.38	0.00	1076.73	364.43	0.076	0.10	0.08
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	6.78	321.74	0.00	977.92	259.30	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	39.20	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	79.89	19.97	79.96	282.54	0.00	0.00	1100.40	995.26	0.073	0.10	0.08
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	208.46	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	282.54	70.63	282.90	79.89	0.00	0.00	1143.33	974.75	0.247	0.42	0.33
Northern Dumb-bell	A55 E/B Off-slip	32.37	8.09	32.40	0.00	282.90	0.00	1293.07	791.87	0.025	0.03	0.03
Northern Dumb-bell	A5 Holyhead Road North	265.00	66.25	265.34	292.29	23.01	0.00	1139.78	889.62	0.233	0.39	0.30

Queueing Delay Results

Queueing Delay results: (12:00-12:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.60	0.17	0.044	A	A
Southern Dumb-bell	Holyhead Road South	1.21	0.08	0.060	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.14	0.08	0.059	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.75	0.32	0.069	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.38	0.03	0.048	A	A
Northern Dumb-bell	A5 Holyhead Road North	4.41	0.29	0.068	A	A

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	3.25	0.22	0.046	A	A
Southern Dumb-bell	Holyhead Road South	1.51	0.10	0.063	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.40	0.09	0.060	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	6.11	0.41	0.074	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.47	0.03	0.049	A	A
Northern Dumb-bell	A5 Holyhead Road North	5.64	0.38	0.073	A	A

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	4.22	0.28	0.049	A	A
Southern Dumb-bell	Holyhead Road South	1.96	0.13	0.067	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.75	0.12	0.061	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	8.22	0.55	0.082	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.59	0.04	0.051	A	A
Northern Dumb-bell	A5 Holyhead Road North	7.56	0.50	0.080	A	A

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	4.28	0.29	0.049	A	A
Southern Dumb-bell	Holyhead Road South	1.99	0.13	0.067	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Southern Dumb-bell	**A5 Bridge**	1.77	0.12	0.061	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	8.42	0.56	0.082	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.60	0.04	0.051	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	7.74	0.52	0.080	A	A

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.35	0.22	0.046	A	A
Southern Dumb-bell	**Holyhead Road South**	1.57	0.10	0.063	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.45	0.10	0.060	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	6.45	0.43	0.075	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.48	0.03	0.049	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	5.93	0.40	0.073	A	A

Queueing Delay results: (13:15-13:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.69	0.18	0.044	A	A
Southern Dumb-bell	**Holyhead Road South**	1.26	0.08	0.060	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.19	0.08	0.059	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	5.04	0.34	0.070	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.39	0.03	0.048	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	4.65	0.31	0.069	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	Holyhead Road South	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	A55 E/B Off-slip	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472
Northern Dumb-bell	A5 Holyhead Road North	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Southern Dumb-bell	A55 W/B Off-slip	240.16	1599.14	0.150	0.00	0.00	0.18	2.60	(0.02)	0.044
1	Southern Dumb-bell	Holyhead Road South	82.06	1077.20	0.076	0.00	0.00	0.08	1.21	(0.02)	0.060

1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	978.52	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Southern Dumb-bell**	**A5 Bridge**	79.46	1100.40	0.072	0.00	0.00	0.08	1.14	(0.02)	0.059
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	**Northern Dumb-bell**	**A5 Bridge**	281.43	1143.33	0.246	0.00	0.00	0.32	4.75	(0.02)	0.069
1	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	1294.54	0.025	0.00	0.00	0.03	0.38	(0.02)	0.048
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	265.00	1139.85	0.232	0.00	0.00	0.30	4.41	(0.02)	0.068
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	286.77	1590.41	0.180	0.00	0.18	0.22	3.25	(0.02)	0.046
2	**Southern Dumb-bell**	**Holyhead Road South**	97.99	1053.68	0.093	0.00	0.08	0.10	1.51	(0.02)	0.063
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	950.62	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Southern Dumb-bell**	**A5 Bridge**	95.20	1100.40	0.087	0.00	0.08	0.09	1.40	(0.02)	0.060
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Northern Dumb-bell**	**A5 Bridge**	336.90	1143.33	0.295	0.00	0.32	0.41	6.11	(0.02)	0.074
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	1264.55	0.031	0.00	0.03	0.03	0.47	(0.02)	0.049
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	316.44	1137.64	0.278	0.00	0.30	0.38	5.64	(0.02)	0.073
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	1578.74	0.222	0.00	0.22	0.28	4.22	(0.02)	0.049
3	**Southern Dumb-bell**	**Holyhead Road South**	120.01	1021.61	0.117	0.00	0.10	0.13	1.96	(0.02)	0.067

3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	912.60	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	116.56	1100.40	0.106	0.00	0.09	0.12	1.75	(0.02)	0.061
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	412.55	1143.33	0.361	0.00	0.41	0.56	8.22	(0.02)	0.082
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	1224.45	0.039	0.00	0.03	0.04	0.59	(0.02)	0.051
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	1134.64	0.342	0.00	0.38	0.51	7.56	(0.02)	0.080
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	1578.61	0.222	0.00	0.28	0.29	4.28	(0.02)	0.049
4	**Southern Dumb-bell**	**Holyhead Road South**	120.01	1021.47	0.117	0.00	0.13	0.13	1.99	(0.02)	0.067
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	912.43	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Southern Dumb-bell**	**A5 Bridge**	116.71	1100.40	0.106	0.00	0.12	0.12	1.77	(0.02)	0.061
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Northern Dumb-bell**	**A5 Bridge**	412.88	1143.33	0.361	0.00	0.56	0.56	8.42	(0.02)	0.082
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	1223.97	0.039	0.00	0.04	0.04	0.60	(0.02)	0.051
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	1134.62	0.342	0.00	0.51	0.52	7.74	(0.02)	0.080
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	286.77	1590.19	0.180	0.00	0.29	0.22	3.35	(0.02)	0.046
5	**Southern Dumb-bell**	**Holyhead Road South**	97.99	1053.45	0.093	0.00	0.13	0.10	1.57	(0.02)	0.063

5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	950.33	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	95.43	1100.40	0.087	0.00	0.12	0.10	1.45	(0.02)	0.060
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	337.44	1143.33	0.295	0.00	0.56	0.42	6.45	(0.02)	0.075
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	1263.77	0.031	0.00	0.04	0.03	0.48	(0.02)	0.049
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	316.44	1137.60	0.278	0.00	0.52	0.39	5.93	(0.02)	0.073
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	240.16	1598.70	0.150	0.00	0.22	0.18	2.69	(0.02)	0.044
6	**Southern Dumb-bell**	**Holyhead Road South**	82.06	1076.73	0.076	0.00	0.10	0.08	1.26	(0.02)	0.060
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	977.92	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Southern Dumb-bell**	**A5 Bridge**	79.89	1100.40	0.073	0.00	0.10	0.08	1.19	(0.02)	0.059
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Northern Dumb-bell**	**A5 Bridge**	282.54	1143.33	0.247	0.00	0.42	0.33	5.04	(0.02)	0.070
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	1293.07	0.025	0.00	0.03	0.03	0.39	(0.02)	0.048
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	265.00	1139.78	0.233	0.00	0.39	0.30	4.65	(0.02)	0.069

A1 - (Default Analysis Set) - D16 - Base+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, AM	Base+Dev 2032	AM			Yes			08:15	09:45	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description

1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00	
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00	

Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	**A55 W/B Off-slip**	None
Southern Dumb-bell	**Holyhead Road South**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B On-slip**	None
Northern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B Off-slip**	None
Northern Dumb-bell	**A5 Holyhead Road North**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	207.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	169.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	1.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	75.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	439.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time	Roundabout	Arm	Direct Demand Entry Flow	DirectDemandEntryFlowInPCU	Direct Demand Exit Flow	Direct Demand Pedestrian

Segment			(PCU/hr)	(PCU/hr)	(PCU/hr)	Flow (Ped/hr)
1	Southern Dumb-bell	A55 W/B Off-slip	155.84	155.84	N/A	N/A
1	Southern Dumb-bell	Holyhead Road South	127.23	127.23	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B Off-slip	56.46	56.46	N/A	N/A
1	Northern Dumb-bell	A5 Holyhead Road North	330.50	330.50	N/A	N/A
2	Southern Dumb-bell	A55 W/B Off-slip	186.09	186.09	N/A	N/A
2	Southern Dumb-bell	Holyhead Road South	151.93	151.93	N/A	N/A
2	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
2	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
2	Northern Dumb-bell	A55 E/B Off-slip	67.42	67.42	N/A	N/A
2	Northern Dumb-bell	A5 Holyhead Road North	394.65	394.65	N/A	N/A
3	Southern Dumb-bell	A55 W/B Off-slip	227.91	227.91	N/A	N/A
3	Southern Dumb-bell	Holyhead Road South	186.07	186.07	N/A	N/A
3	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
3	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
3	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
3	Northern Dumb-bell	A55 E/B Off-slip	82.58	82.58	N/A	N/A
3	Northern Dumb-bell	A5 Holyhead Road North	483.35	483.35	N/A	N/A
4	Southern Dumb-bell	A55 W/B Off-slip	227.91	227.91	N/A	N/A
4	Southern Dumb-bell	Holyhead Road South	186.07	186.07	N/A	N/A
4	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
4	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A

4	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
4	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
4	Northern Dumb-bell	A55 E/B Off-slip	82.58	82.58	N/A	N/A
4	Northern Dumb-bell	A5 Holyhead Road North	483.35	483.35	N/A	N/A
5	Southern Dumb-bell	A55 W/B Off-slip	186.09	186.09	N/A	N/A
5	Southern Dumb-bell	Holyhead Road South	151.93	151.93	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B Off-slip	67.42	67.42	N/A	N/A
5	Northern Dumb-bell	A5 Holyhead Road North	394.65	394.65	N/A	N/A
6	Southern Dumb-bell	A55 W/B Off-slip	155.84	155.84	N/A	N/A
6	Southern Dumb-bell	Holyhead Road South	127.23	127.23	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B Off-slip	56.46	56.46	N/A	N/A
6	Northern Dumb-bell	A5 Holyhead Road North	330.50	330.50	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	0.000	0.000	0.000	207.000
	2	0.000	0.000	0.000	69.000	100.000

	3	0.000	1.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	200.000	0.000	20.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	0.00	0.00	0.00	0.00	1.00
	2	0.00	0.00	0.00	0.41	0.59
	3	0.00	1.00	0.00	0.00	0.00
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.91	0.00	0.09	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	Exit-only	Exit-only	Exit-only	Exit-only
	2	7.000	0.000	0.000	258.000
	3	0.000	61.000	0.000	14.000
	4	281.000	158.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.25	0.25	0.25	0.25
	2	0.03	0.00	0.00	0.97
	3	0.00	0.81	0.00	0.19
	4	0.64	0.36	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000

	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	0.15	0.05	0.18	A	189.95	284.92	12.76	0.04	0.14	12.76	0.04	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	0.17	0.07	0.21	A	155.08	232.62	14.89	0.06	0.17	14.89	0.06	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	0.22	0.07	0.28	A	200.83	301.25	20.10	0.07	0.22	20.10	0.07	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	0.30	0.07	0.42	A	281.58	422.37	29.52	0.07	0.33	29.52	0.07	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	0.07	0.05	0.07	A	68.82	103.23	5.06	0.05	0.06	5.06	0.05	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	0.43	0.10	0.76	A	402.83	604.25	51.25	0.08	0.57	51.25	0.08	0.487	1150.984

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	155.84	38.96	155.40	0.00	163.44	0.00	1553.06	710.21	0.100	0.00	0.11
Southern Dumb-bell	Holyhead Road South	127.23	31.81	126.72	148.58	170.25	0.00	1113.73	464.17	0.114	0.00	0.13
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	0.00	296.97	0.00	988.85	563.26	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	66.60	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	164.14	41.03	163.44	230.38	0.00	0.00	1100.40	827.76	0.149	0.00	0.17
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	216.55	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	230.38	57.59	229.37	164.14	0.00	0.00	1143.33	1027.55	0.202	0.00	0.25
Northern Dumb-bell	A55 E/B Off-slip	56.46	14.12	56.29	0.00	229.37	0.00	1321.53	607.66	0.043	0.00	0.04
Northern Dumb-bell	A5 Holyhead Road North	330.50	82.63	328.85	233.82	51.84	0.00	1125.75	643.77	0.294	0.00	0.41

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	186.09	46.52	185.98	0.00	196.49	0.00	1534.99	701.85	0.121	0.11	0.14
Southern Dumb-bell	Holyhead Road South	151.93	37.98	151.80	178.63	203.85	0.00	1097.40	441.98	0.138	0.13	0.16
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	0.00	355.65	0.00	962.96	576.21	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	79.84	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	196.66	49.17	196.49	275.81	0.00	0.00	1100.40	818.25	0.179	0.17	0.22
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	259.57	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	275.81	68.95	275.55	196.66	0.00	0.00	1143.33	1006.51	0.241	0.25	0.32
Northern Dumb-bell	A55 E/B Off-slip	67.42	16.86	67.38	0.00	275.55	0.00	1296.98	536.47	0.052	0.04	0.05
Northern Dumb-bell	A5 Holyhead Road North	394.65	98.66	394.15	280.85	62.08	0.00	1120.76	736.79	0.352	0.41	0.54

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand	Capacity (PCU/hr)	Saturation Capacity	RFC	Start Queue	End Queue

							(Ped/hr)		(PCU/hr)		(PCU)	(PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	227.91	56.98	227.75	0.00	240.51	0.00	1510.92	703.04	0.151	0.14	0.18
Southern Dumb-bell	**Holyhead Road South**	186.07	46.52	185.88	218.65	249.62	0.00	1075.15	443.02	0.173	0.16	0.21
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	435.50	0.00	927.71	575.44	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	97.76	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	240.76	60.19	240.51	337.74	0.00	0.00	1100.40	819.72	0.219	0.22	0.28
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	317.74	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	337.74	84.44	337.34	240.76	0.00	0.00	1143.33	1007.79	0.295	0.32	0.42
Northern Dumb-bell	**A55 E/B Off-slip**	82.58	20.64	82.52	0.00	337.34	0.00	1264.13	533.92	0.065	0.05	0.07
Northern Dumb-bell	**A5 Holyhead Road North**	483.35	120.84	482.47	343.83	76.02	0.00	1113.98	748.96	0.434	0.54	0.76

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	227.91	56.98	227.91	0.00	241.11	0.00	1510.60	703.04	0.151	0.18	0.18
Southern Dumb-bell	**Holyhead Road South**	186.07	46.52	186.07	219.19	249.83	0.00	1075.05	443.03	0.173	0.21	0.21
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	435.90	0.00	927.54	575.44	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	97.89	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	241.12	60.28	241.11	338.01	0.00	0.00	1100.40	819.72	0.219	0.28	0.28
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	318.30	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	338.01	84.50	338.00	241.12	0.00	0.00	1143.33	1007.79	0.296	0.42	0.42
Northern Dumb-bell	**A55 E/B Off-slip**	82.58	20.64	82.58	0.00	338.00	0.00	1263.77	533.92	0.065	0.07	0.07
Northern Dumb-bell	**A5 Holyhead Road North**	483.35	120.84	483.33	344.49	76.09	0.00	1113.95	748.96	0.434	0.76	0.76

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	186.09	46.52	186.24	0.00	197.47	0.00	1534.46	701.84	0.121	0.18	0.14

Southern Dumb-bell	**Holyhead Road South**	151.93	37.98	152.12	179.52	204.20	0.00	1097.23	441.99	0.138	0.21	0.16
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	356.31	0.00	962.66	576.21	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	80.06	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	197.23	49.31	197.47	276.25	0.00	0.00	1100.40	818.25	0.179	0.28	0.22
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	260.47	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	276.25	69.06	276.64	197.23	0.00	0.00	1143.33	1006.51	0.242	0.42	0.32
Northern Dumb-bell	**A55 E/B Off-slip**	67.42	16.86	67.48	0.00	276.64	0.00	1296.39	536.47	0.052	0.07	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	394.65	98.66	395.51	281.93	62.19	0.00	1120.71	736.79	0.352	0.76	0.55

Main results: (09:30-09:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	155.84	38.96	155.95	0.00	165.26	0.00	1552.07	700.78	0.100	0.14	0.11
Southern Dumb-bell	**Holyhead Road South**	127.23	31.81	127.36	150.24	170.97	0.00	1113.38	441.12	0.114	0.16	0.13
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	0.00	298.33	0.00	988.25	576.91	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	67.02	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	165.09	41.27	165.26	231.31	0.00	0.00	1100.40	817.11	0.150	0.22	0.18
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	218.00	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	231.31	57.83	231.57	165.09	0.00	0.00	1143.33	1005.30	0.202	0.32	0.25
Northern Dumb-bell	**A55 E/B Off-slip**	56.46	14.12	56.50	0.00	231.57	0.00	1320.36	539.46	0.043	0.06	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	330.50	82.63	331.02	236.00	52.07	0.00	1125.64	724.59	0.294	0.55	0.42

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	1.64	0.11	0.043	A	A
Southern Dumb-bell	**Holyhead Road South**	1.89	0.13	0.061	A	A

Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.56	0.17	0.064	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	3.68	0.25	0.066	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.66	0.04	0.047	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.02	0.40	0.075	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.04	0.14	0.044	A	A
Southern Dumb-bell	**Holyhead Road South**	2.37	0.16	0.063	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.20	0.21	0.066	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.67	0.31	0.069	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.81	0.05	0.049	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	7.92	0.53	0.083	A	A

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	2.62	0.17	0.047	A	A
Southern Dumb-bell	**Holyhead Road South**	3.07	0.20	0.067	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	4.11	0.27	0.070	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	6.13	0.41	0.074	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	1.03	0.07	0.051	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	11.07	0.74	0.095	A	A

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.66	0.18	0.047	A	A
Southern Dumb-bell	Holyhead Road South	3.13	0.21	0.067	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	4.19	0.28	0.070	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	6.26	0.42	0.074	A	A
Northern Dumb-bell	A55 E/B Off-slip	1.05	0.07	0.051	A	A
Northern Dumb-bell	A5 Holyhead Road North	11.41	0.76	0.095	A	A

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.10	0.14	0.044	A	A
Southern Dumb-bell	Holyhead Road South	2.46	0.16	0.063	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	3.35	0.22	0.066	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.89	0.33	0.069	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.84	0.06	0.049	A	A
Northern Dumb-bell	A5 Holyhead Road North	8.42	0.56	0.083	A	A

Queueing Delay results: (09:30-09:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	1.70	0.11	0.043	A	A
Southern Dumb-bell	Holyhead Road South	1.97	0.13	0.061	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)

Southern Dumb-bell	**A5 Bridge**	2.70	0.18	0.064	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	3.89	0.26	0.066	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.68	0.05	0.047	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.40	0.43	0.076	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Southern Dumb-bell	A55 W/B Off-slip	155.84	1553.06	0.100	0.00	0.00	0.11	1.64	(0.02)	0.043
1	Southern Dumb-bell	Holyhead Road South	127.23	1113.73	0.114	0.00	0.00	0.13	1.89	(0.02)	0.061
1	Southern Dumb-bell	A55 W/B On-slip	0.00	988.85	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Southern Dumb-bell	A5 Bridge	164.14	1100.40	0.149	0.00	0.00	0.17	2.56	(0.02)	0.064
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Northern Dumb-bell	A5 Bridge	230.38	1143.33	0.202	0.00	0.00	0.25	3.68	(0.02)	0.066
1	Northern Dumb-bell	A55 E/B Off-slip	56.46	1321.53	0.043	0.00	0.00	0.04	0.66	(0.02)	0.047
1	Northern Dumb-bell	A5 Holyhead Road North	330.50	1125.75	0.294	0.00	0.00	0.41	6.02	(0.02)	0.075
2	Southern Dumb-bell	A55 W/B Off-slip	186.09	1534.99	0.121	0.00	0.11	0.14	2.04	(0.02)	0.044
2	Southern Dumb-bell	Holyhead Road South	151.93	1097.40	0.138	0.00	0.13	0.16	2.37	(0.02)	0.063
2	Southern Dumb-bell	A55 W/B On-slip	0.00	962.96	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Southern Dumb-bell	A5 Bridge	196.66	1100.40	0.179	0.00	0.17	0.22	3.20	(0.02)	0.066
2	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Northern Dumb-bell	A5 Bridge	275.81	1143.33	0.241	0.00	0.25	0.32	4.67	(0.02)	0.069
2	Northern Dumb-bell	A55 E/B Off-slip	67.42	1296.98	0.052	0.00	0.04	0.05	0.81	(0.02)	0.049

2	**Northern Dumb-bell**	**A5 Holyhead Road North**	394.65	1120.76	0.352	0.00	0.41	0.54	7.92	(0.02)	0.083
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	227.91	1510.92	0.151	0.00	0.14	0.18	2.62	(0.02)	0.047
3	**Southern Dumb-bell**	**Holyhead Road South**	186.07	1075.15	0.173	0.00	0.16	0.21	3.07	(0.02)	0.067
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	927.71	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	240.76	1100.40	0.219	0.00	0.22	0.28	4.11	(0.02)	0.070
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	337.74	1143.33	0.295	0.00	0.32	0.42	6.13	(0.02)	0.074
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	1264.13	0.065	0.00	0.05	0.07	1.03	(0.02)	0.051
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	483.35	1113.98	0.434	0.00	0.54	0.76	11.07	(0.02)	0.095
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	227.91	1510.60	0.151	0.00	0.18	0.18	2.66	(0.02)	0.047
4	**Southern Dumb-bell**	**Holyhead Road South**	186.07	1075.05	0.173	0.00	0.21	0.21	3.13	(0.02)	0.067
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	927.54	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Southern Dumb-bell**	**A5 Bridge**	241.12	1100.40	0.219	0.00	0.28	0.28	4.19	(0.02)	0.070
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Northern Dumb-bell**	**A5 Bridge**	338.01	1143.33	0.296	0.00	0.42	0.42	6.26	(0.02)	0.074
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	82.58	1263.77	0.065	0.00	0.07	0.07	1.05	(0.02)	0.051

4	**Northern Dumb-bell**	**A5 Holyhead Road North**	483.35	1113.95	0.434	0.00	0.76	0.76	11.41	(0.02)	0.095
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	186.09	1534.46	0.121	0.00	0.18	0.14	2.10	(0.02)	0.044
5	**Southern Dumb-bell**	**Holyhead Road South**	151.93	1097.23	0.138	0.00	0.21	0.16	2.46	(0.02)	0.063
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	962.66	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	197.23	1100.40	0.179	0.00	0.28	0.22	3.35	(0.02)	0.066
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	276.25	1143.33	0.242	0.00	0.42	0.32	4.89	(0.02)	0.069
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	67.42	1296.39	0.052	0.00	0.07	0.06	0.84	(0.02)	0.049
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	394.65	1120.71	0.352	0.00	0.76	0.55	8.42	(0.02)	0.083
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	155.84	1552.07	0.100	0.00	0.14	0.11	1.70	(0.02)	0.043
6	**Southern Dumb-bell**	**Holyhead Road South**	127.23	1113.38	0.114	0.00	0.16	0.13	1.97	(0.02)	0.061
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	988.25	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Southern Dumb-bell**	**A5 Bridge**	165.09	1100.40	0.150	0.00	0.22	0.18	2.70	(0.02)	0.064
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Northern Dumb-bell**	**A5 Bridge**	231.31	1143.33	0.202	0.00	0.32	0.25	3.89	(0.02)	0.066
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	56.46	1320.36	0.043	0.00	0.06	0.04	0.68	(0.02)	0.047

6	**Northern Dumb-bell**	**A5 Holyhead Road North**	330.50	1125.64	0.294	0.00	0.55	0.42	6.40	(0.02)	0.076

A1 - (Default Analysis Set) - D17 - Base+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, PM	Base+Dev 2032	PM			Yes			15:30	17:00	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00	

Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	**A55 W/B Off-slip**	None
Southern Dumb-bell	**Holyhead Road South**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A55 W/B On-slip**	None
Southern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B On-slip**	None
Northern Dumb-bell	**A5 Bridge**	None
Northern Dumb-bell	**A55 E/B Off-slip**	None
Northern Dumb-bell	**A5 Holyhead Road North**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	371.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	210.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	4.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	59.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	424.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	Southern Dumb-bell	A55 W/B Off-slip	279.31	279.31	N/A	N/A
1	Southern Dumb-bell	Holyhead Road South	158.10	158.10	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
1	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
1	Northern Dumb-bell	A55 E/B Off-slip	44.42	44.42	N/A	N/A
1	Northern Dumb-bell	A5 Holyhead Road North	319.21	319.21	N/A	N/A
2	Southern Dumb-bell	A55 W/B Off-slip	333.52	333.52	N/A	N/A
2	Southern Dumb-bell	Holyhead Road South	188.79	188.79	N/A	N/A
2	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
2	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
2	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
2	Northern Dumb-bell	A55 E/B Off-slip	53.04	53.04	N/A	N/A
2	Northern Dumb-bell	A5 Holyhead Road North	381.17	381.17	N/A	N/A
3	Southern Dumb-bell	A55 W/B Off-slip	408.48	408.48	N/A	N/A
3	Southern Dumb-bell	Holyhead Road South	231.21	231.21	N/A	N/A
3	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
3	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
3	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
3	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
3	Northern Dumb-bell	A55 E/B Off-slip	64.96	64.96	N/A	N/A
3	Northern Dumb-bell	A5 Holyhead Road North	466.83	466.83	N/A	N/A

4	Southern Dumb-bell	A55 W/B Off-slip	408.48	408.48	N/A	N/A
4	Southern Dumb-bell	Holyhead Road South	231.21	231.21	N/A	N/A
4	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
4	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
4	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
4	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
4	Northern Dumb-bell	A55 E/B Off-slip	64.96	64.96	N/A	N/A
4	Northern Dumb-bell	A5 Holyhead Road North	466.83	466.83	N/A	N/A
5	Southern Dumb-bell	A55 W/B Off-slip	333.52	333.52	N/A	N/A
5	Southern Dumb-bell	Holyhead Road South	188.79	188.79	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
5	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
5	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
5	Northern Dumb-bell	A55 E/B Off-slip	53.04	53.04	N/A	N/A
5	Northern Dumb-bell	A5 Holyhead Road North	381.17	381.17	N/A	N/A
6	Southern Dumb-bell	A55 W/B Off-slip	279.31	279.31	N/A	N/A
6	Southern Dumb-bell	Holyhead Road South	158.10	158.10	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	N/A	N/A
6	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Southern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	0.00	N/A	N/A
6	Northern Dumb-bell	A5 Bridge	0.00	0.00	N/A	N/A
6	Northern Dumb-bell	A55 E/B Off-slip	44.42	44.42	N/A	N/A
6	Northern Dumb-bell	A5 Holyhead Road North	319.21	319.21	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	6.000	8.000	0.000	357.000
	2	0.000	0.000	0.000	70.000	140.000
	3	0.000	3.000	0.000	1.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	149.000	0.000	12.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.00	0.02	0.02	0.00	0.96
	2	0.00	0.00	0.00	0.33	0.67
	3	0.00	0.75	0.00	0.25	0.00
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.93	0.00	0.07	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	8.000	0.000	0.000	463.000
	3	0.000	49.000	0.000	10.000
	4	313.000	111.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
From		1	2	3	4

	1	0.25	0.25	0.25	0.25
	2	0.02	0.00	0.00	0.98
	3	0.00	0.83	0.00	0.17
	4	0.74	0.26	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
		1	**2**	**3**	**4**	**5**
From	**1**	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

	To

		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	0.26	0.05	0.36	A	340.44	510.65	25.23	0.05	0.28	25.24	0.05	0.547	1642.419
Southern Dumb-bell	Holyhead Road South	0.23	0.08	0.30	A	192.70	289.05	20.93	0.07	0.23	20.93	0.07	0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	0.16	0.06	0.19	A	146.73	220.09	13.83	0.06	0.15	13.83	0.06	0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	0.48	0.10	0.91	A	455.84	683.76	60.63	0.09	0.67	60.63	0.09	0.448	1143.326

Northern Dumb-bell	A55 E/B Off-slip	0.06	0.06	0.06	A	54.14	81.21	4.26	0.05	0.05	4.26	0.05	0.532	1443.472
Northern Dumb-bell	A5 Holyhead Road North	0.42	0.09	0.71	A	389.07	583.60	48.14	0.08	0.53	48.14	0.08	0.487	1150.984

Main Results

Main results: (15:30-15:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	279.31	69.83	278.45	0.00	119.44	0.00	1577.12	702.68	0.177	0.00	0.21
Southern Dumb-bell	Holyhead Road South	158.10	39.52	157.40	115.04	282.85	0.00	1058.99	440.07	0.149	0.00	0.17
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	6.00	434.25	0.00	928.27	592.25	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	61.37	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	119.92	29.98	119.44	372.88	0.00	0.00	1100.40	876.78	0.109	0.00	0.12
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	240.79	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	372.88	93.22	370.96	119.92	0.00	0.00	1143.33	1013.50	0.326	0.00	0.48
Northern Dumb-bell	A55 E/B Off-slip	44.42	11.10	44.27	0.00	370.96	0.00	1246.25	692.87	0.036	0.00	0.04
Northern Dumb-bell	A5 Holyhead Road North	319.21	79.80	317.65	372.16	43.07	0.00	1130.02	707.80	0.282	0.00	0.39

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	333.52	83.38	333.30	0.00	143.57	0.00	1563.92	700.64	0.213	0.21	0.27
Southern Dumb-bell	Holyhead Road South	188.79	47.20	188.59	138.26	338.61	0.00	1031.89	418.59	0.183	0.17	0.22
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	7.19	520.02	0.00	890.41	602.26	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	73.57	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	143.68	35.92	143.57	446.45	0.00	0.00	1100.40	871.33	0.131	0.12	0.15
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	288.61	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	446.45	111.61	445.83	143.68	0.00	0.00	1143.33	997.12	0.390	0.48	0.63

Northern Dumb-bell	**A55 E/B Off-slip**	53.04	13.26	53.00	0.00	445.83	0.00	1206.44	640.32	0.044	0.04	0.05
Northern Dumb-bell	**A5 Holyhead Road North**	381.17	95.29	380.70	447.24	51.59	0.00	1125.87	808.74	0.339	0.39	0.51

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	408.48	102.12	408.13	0.00	175.75	0.00	1546.33	703.18	0.264	0.27	0.36
Southern Dumb-bell	**Holyhead Road South**	231.21	57.80	230.90	169.25	414.63	0.00	994.93	416.53	0.232	0.22	0.30
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.80	636.73	0.00	838.90	602.52	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	90.07	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	175.91	43.98	175.75	546.66	0.00	0.00	1100.40	873.21	0.160	0.15	0.19
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	353.30	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	546.66	136.67	545.58	175.91	0.00	0.00	1143.33	997.10	0.478	0.63	0.90
Northern Dumb-bell	**A55 E/B Off-slip**	64.96	16.24	64.91	0.00	545.58	0.00	1153.41	641.13	0.056	0.05	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	466.83	116.71	466.04	547.32	63.17	0.00	1120.23	812.71	0.417	0.51	0.71

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	408.48	102.12	408.48	0.00	176.16	0.00	1546.11	703.18	0.264	0.36	0.36
Southern Dumb-bell	**Holyhead Road South**	231.21	57.80	231.21	169.63	415.00	0.00	994.75	416.53	0.232	0.30	0.30
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.81	637.40	0.00	838.60	602.51	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	90.20	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	176.16	44.04	176.16	547.20	0.00	0.00	1100.40	873.21	0.160	0.19	0.19
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	353.90	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	547.20	136.80	547.17	176.16	0.00	0.00	1143.33	997.10	0.479	0.90	0.91
Northern Dumb-bell	**A55 E/B Off-slip**	64.96	16.24	64.96	0.00	547.17	0.00	1152.57	641.13	0.056	0.06	0.06
Northern Dumb-bell	**A5 Holyhead Road North**	466.83	116.71	466.82	548.89	63.24	0.00	1120.20	812.71	0.417	0.71	0.71

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	333.52	83.38	333.87	0.00	144.24	0.00	1563.56	700.64	0.213	0.36	0.27
Southern Dumb-bell	Holyhead Road South	188.79	47.20	189.09	138.89	339.22	0.00	1031.59	418.60	0.183	0.30	0.23
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	7.20	521.11	0.00	889.93	602.26	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	73.78	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	144.09	36.02	144.24	447.33	0.00	0.00	1100.40	871.33	0.131	0.19	0.15
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	289.57	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	447.33	111.83	448.38	144.09	0.00	0.00	1143.33	997.12	0.391	0.91	0.65
Northern Dumb-bell	A55 E/B Off-slip	53.04	13.26	53.09	0.00	448.38	0.00	1205.09	640.32	0.044	0.06	0.05
Northern Dumb-bell	A5 Holyhead Road North	381.17	95.29	381.95	449.76	51.71	0.00	1125.81	808.74	0.339	0.71	0.52

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	A55 W/B Off-slip	279.31	69.83	279.53	0.00	120.72	0.00	1576.42	698.72	0.177	0.27	0.22
Southern Dumb-bell	Holyhead Road South	158.10	39.52	158.29	116.25	284.01	0.00	1058.43	420.14	0.149	0.23	0.18
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.00	6.03	436.28	0.00	927.37	602.08	0.000	0.00	0.00
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	61.76	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	120.61	30.15	120.72	374.51	0.00	0.00	1100.40	869.94	0.110	0.15	0.12
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	242.37	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	374.51	93.63	375.15	120.61	0.00	0.00	1143.33	997.13	0.328	0.65	0.49
Northern Dumb-bell	A55 E/B Off-slip	44.42	11.10	44.45	0.00	375.15	0.00	1244.03	639.78	0.036	0.05	0.04
Northern Dumb-bell	A5 Holyhead Road North	319.21	79.80	319.69	376.31	43.29	0.00	1129.91	805.55	0.283	0.52	0.40

Queueing Delay Results

Queueing Delay results: (15:30-15:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	3.16	0.21	0.046	A	A
Southern Dumb-bell	Holyhead Road South	2.56	0.17	0.067	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.79	0.12	0.061	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	7.00	0.47	0.078	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.54	0.04	0.050	A	A
Northern Dumb-bell	A5 Holyhead Road North	5.71	0.38	0.074	A	A

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	4.00	0.27	0.049	A	A
Southern Dumb-bell	Holyhead Road South	3.29	0.22	0.071	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	2.21	0.15	0.063	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	9.31	0.62	0.086	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.68	0.05	0.052	A	A
Northern Dumb-bell	A5 Holyhead Road North	7.47	0.50	0.080	A	A

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	5.28	0.35	0.053	A	A
Southern Dumb-bell	Holyhead Road South	4.43	0.30	0.078	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	2.80	0.19	0.065	A	A

Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	13.18	0.88	0.100	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.88	0.06	0.055	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	10.34	0.69	0.092	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	5.37	0.36	0.053	A	A
Southern Dumb-bell	**Holyhead Road South**	4.52	0.30	0.079	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.85	0.19	0.065	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	13.64	0.91	0.101	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.89	0.06	0.055	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	10.64	0.71	0.092	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	4.14	0.28	0.049	A	A
Southern Dumb-bell	**Holyhead Road South**	3.44	0.23	0.071	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	2.30	0.15	0.063	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	9.98	0.67	0.086	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.70	0.05	0.052	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	7.92	0.53	0.081	A	A

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

Roundabout	Arm	Queueing Total Delay	Queueing Rate Of Delay	Average Delay Per Arriving	Unsignalised Level Of	Signalised Level Of

		(PCU-min)	(PCU-min/min)	Vehicle (min)	Service	Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.28	0.22	0.046	A	A
Southern Dumb-bell	**Holyhead Road South**	2.69	0.18	0.067	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.88	0.13	0.061	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	7.52	0.50	0.078	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.56	0.04	0.050	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	6.06	0.40	0.074	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Southern Dumb-bell	A55 W/B Off-slip	279.31	1577.12	0.177	0.00	0.00	0.21	3.16	(0.02)	0.046
1	Southern Dumb-bell	Holyhead Road South	158.10	1058.99	0.149	0.00	0.00	0.17	2.56	(0.02)	0.067
1	Southern Dumb-bell	A55 W/B On-slip	0.00	928.27	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Southern Dumb-bell	A5 Bridge	119.92	1100.40	0.109	0.00	0.00	0.12	1.79	(0.02)	0.061
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Northern Dumb-bell	A5 Bridge	372.88	1143.33	0.326	0.00	0.00	0.48	7.00	(0.02)	0.078
1	Northern Dumb-bell	A55 E/B Off-slip	44.42	1246.25	0.036	0.00	0.00	0.04	0.54	(0.02)	0.050
1	Northern Dumb-bell	A5 Holyhead Road North	319.21	1130.02	0.282	0.00	0.00	0.39	5.71	(0.02)	0.074
2	Southern Dumb-bell	A55 W/B Off-slip	333.52	1563.92	0.213	0.00	0.21	0.27	4.00	(0.02)	0.049
2	Southern Dumb-bell	Holyhead Road South	188.79	1031.89	0.183	0.00	0.17	0.22	3.29	(0.02)	0.071
2	Southern Dumb-bell	A55 W/B On-slip	0.00	890.41	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	Southern Dumb-bell	A5 Bridge	143.68	1100.40	0.131	0.00	0.12	0.15	2.21	(0.02)	0.063
2	Northern	A55 E/B On-	(Exit-only)	(Exit-only)	(Exit-	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

	Dumb-bell	**slip**			only)						
2	**Northern Dumb-bell**	**A5 Bridge**	446.45	1143.33	0.390	0.00	0.48	0.63	9.31	(0.02)	0.086
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	53.04	1206.44	0.044	0.00	0.04	0.05	0.68	(0.02)	0.052
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	381.17	1125.87	0.339	0.00	0.39	0.51	7.47	(0.02)	0.080
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	408.48	1546.33	0.264	0.00	0.27	0.36	5.28	(0.02)	0.053
3	**Southern Dumb-bell**	**Holyhead Road South**	231.21	994.93	0.232	0.00	0.22	0.30	4.43	(0.02)	0.078
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	838.90	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	175.91	1100.40	0.160	0.00	0.15	0.19	2.80	(0.02)	0.065
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	546.66	1143.33	0.478	0.00	0.63	0.90	13.18	(0.02)	0.100
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	1153.41	0.056	0.00	0.05	0.06	0.88	(0.02)	0.055
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	466.83	1120.23	0.417	0.00	0.51	0.71	10.34	(0.02)	0.092
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	408.48	1546.11	0.264	0.00	0.36	0.36	5.37	(0.02)	0.053
4	**Southern Dumb-bell**	**Holyhead Road South**	231.21	994.75	0.232	0.00	0.30	0.30	4.52	(0.02)	0.079
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	838.60	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Southern Dumb-bell**	**A5 Bridge**	176.16	1100.40	0.160	0.00	0.19	0.19	2.85	(0.02)	0.065
4	**Northern**	**A55 E/B On-**	(Exit-only)	(Exit-only)	(Exit-	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

	Dumb-bell	**slip**			only)						
4	**Northern Dumb-bell**	**A5 Bridge**	547.20	1143.33	0.479	0.00	0.90	0.91	13.64	(0.02)	0.101
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	64.96	1152.57	0.056	0.00	0.06	0.06	0.89	(0.02)	0.055
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	466.83	1120.20	0.417	0.00	0.71	0.71	10.64	(0.02)	0.092
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	333.52	1563.56	0.213	0.00	0.36	0.27	4.14	(0.02)	0.049
5	**Southern Dumb-bell**	**Holyhead Road South**	188.79	1031.59	0.183	0.00	0.30	0.23	3.44	(0.02)	0.071
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	889.93	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	144.09	1100.40	0.131	0.00	0.19	0.15	2.30	(0.02)	0.063
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	447.33	1143.33	0.391	0.00	0.91	0.65	9.98	(0.02)	0.086
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	53.04	1205.09	0.044	0.00	0.06	0.05	0.70	(0.02)	0.052
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	381.17	1125.81	0.339	0.00	0.71	0.52	7.92	(0.02)	0.081
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	279.31	1576.42	0.177	0.00	0.27	0.22	3.28	(0.02)	0.046
6	**Southern Dumb-bell**	**Holyhead Road South**	158.10	1058.43	0.149	0.00	0.23	0.18	2.69	(0.02)	0.067
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	927.37	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Southern Dumb-bell**	**A5 Bridge**	120.61	1100.40	0.110	0.00	0.15	0.12	1.88	(0.02)	0.061
6	**Northern**	**A55 E/B On-**	(Exit-only)	(Exit-only)	(Exit-	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

	Dumb-bell	**slip**			only)						
6	**Northern Dumb-bell**	**A5 Bridge**	374.51	1143.33	0.328	0.00	0.65	0.49	7.52	(0.02)	0.078
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	44.42	1244.03	0.036	0.00	0.05	0.04	0.56	(0.02)	0.050
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	319.21	1129.91	0.283	0.00	0.52	0.40	6.06	(0.02)	0.074

A1 - (Default Analysis Set) - D18 - Base+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, Sat	Base+Dev 2032	Sat			Yes			12:00	13:30	90	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	Southern Dumb-bell	1,2,3,4,5	Standard			
2	2	Northern Dumb-bell	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A55 W/B Off-slip	
2	Holyhead Road South	
3	A55 W/B On-slip	
4	A55 W/B On-slip	
5	A5 Bridge	
1	A55 E/B On-slip	
2	A5 Bridge	
3	A55 E/B Off-slip	
4	A5 Holyhead Road North	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**Holyhead Road South**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A55 W/B On-slip**	0.00	99999.00		0.00
Southern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B On-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Bridge**	0.00	99999.00		0.00
Northern Dumb-bell	**A55 E/B Off-slip**	0.00	99999.00		0.00
Northern Dumb-bell	**A5 Holyhead Road North**	0.00	99999.00		0.00

Standard Geometry

Roundabout	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
Southern Dumb-bell	A55 W/B Off-slip	5.00	6.00	3.00	21.00	59.50	34.00	
Southern Dumb-bell	Holyhead Road South	3.75	3.75	0.00	22.00	59.50	16.00	
Southern Dumb-bell	A55 W/B On-slip	2.50	6.00	8.00	15.50	59.50	45.00	
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Southern Dumb-bell	A5 Bridge	3.75	3.75	0.00	15.50	59.50	35.00	
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes
Northern Dumb-bell	A5 Bridge	4.00	4.00	0.00	21.00	59.50	47.00	
Northern Dumb-bell	A55 E/B Off-slip	4.00	5.00	3.00	20.00	59.50	12.00	
Northern Dumb-bell	A5 Holyhead Road North	3.50	3.50	0.00	24.50	59.50	8.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
Southern Dumb-bell	A55 W/B Off-slip	None
Southern Dumb-bell	Holyhead Road South	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A55 W/B On-slip	None
Southern Dumb-bell	A5 Bridge	None
Northern Dumb-bell	A55 E/B On-slip	None
Northern Dumb-bell	A5 Bridge	None
Northern Dumb-bell	A55 E/B Off-slip	None
Northern Dumb-bell	A5 Holyhead Road North	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip		((calculated))	((calculated))	0.547	1642.419
Southern Dumb-bell	Holyhead Road South		((calculated))	((calculated))	0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip		((calculated))	((calculated))	0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge		((calculated))	((calculated))	0.447	1100.405

Northern Dumb-bell	**A55 E/B On-slip**		((calculated))	((calculated))	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**		((calculated))	((calculated))	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**		((calculated))	((calculated))	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**		((calculated))	((calculated))	0.487	1150.984

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
Southern Dumb-bell	**A55 W/B Off-slip**	ONE HOUR	Yes	319.00	100.000	N/A
Southern Dumb-bell	**Holyhead Road South**	ONE HOUR	Yes	109.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	ONE HOUR	Yes	0.00	100.000	N/A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)			(Exit-only)	(N/A)
Southern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Yes)		(Exit-only)	(N/A)
Northern Dumb-bell	**A5 Bridge**	Linked Arm			N/A	N/A
Northern Dumb-bell	**A55 E/B Off-slip**	ONE HOUR	Yes	43.00	100.000	N/A
Northern Dumb-bell	**A5 Holyhead Road North**	ONE HOUR	Yes	352.00	100.000	N/A

Linked Arm Data

Roundabout	Arm	From Roundabout	From Arm	Limit Queue To	Limit Capacity To	Ignore Random	Internal Storage Space

		ID	ID	Storage	Downstream	Queue	(PCU)
Southern Dumb-bell	**A5 Bridge**	2	2	Yes			12.00
Northern Dumb-bell	**A5 Bridge**	1	5	Yes			12.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**Southern Dumb-bell**	**A55 W/B Off-slip**	240.16	240.16	N/A	N/A
1	**Southern Dumb-bell**	**Holyhead Road South**	82.06	82.06	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
1	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	32.37	N/A	N/A
1	**Northern Dumb-bell**	**A5 Holyhead Road North**	265.00	265.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B Off-slip**	286.77	286.77	N/A	N/A
2	**Southern Dumb-bell**	**Holyhead Road South**	97.99	97.99	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	38.66	N/A	N/A
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	316.44	316.44	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	351.23	N/A	N/A
3	**Southern Dumb-bell**	**Holyhead Road South**	120.01	120.01	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A

3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	47.34	N/A	N/A
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	387.56	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	351.23	N/A	N/A
4	**Southern Dumb-bell**	**Holyhead Road South**	120.01	120.01	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	47.34	N/A	N/A
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	387.56	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	286.77	286.77	N/A	N/A
5	**Southern Dumb-bell**	**Holyhead Road South**	97.99	97.99	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
5	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	38.66	N/A	N/A
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	316.44	316.44	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	240.16	240.16	N/A	N/A
6	**Southern Dumb-bell**	**Holyhead Road South**	82.06	82.06	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	0.00	N/A	N/A
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	0.00	N/A	N/A
6	**Southern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A5 Bridge**	0.00	0.00	N/A	N/A
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	32.37	N/A	N/A
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	265.00	265.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	7.000	8.000	0.000	304.000
	2	0.000	0.000	0.000	38.000	71.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	91.000	1.000	14.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.00	0.02	0.03	0.00	0.95
	2	0.00	0.00	0.00	0.35	0.65
	3	0.20	0.20	0.20	0.20	0.20
	4	0.20	0.20	0.20	0.20	0.20
	5	0.00	0.86	0.01	0.13	0.00

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Turning Counts or Proportions (PCU/hr) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	9.000	0.000	0.000	345.000
	3	0.000	21.000	0.000	22.000
	4	267.000	85.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Turning Proportions (PCU) - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	0.25	0.25	0.25	0.25
	2	0.03	0.00	0.00	0.97
	3	0.00	0.49	0.00	0.51
	4	0.76	0.24	0.00	0.00

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Vehicle Mix

Average PCU Per Vehicle - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	1.000	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000	1.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	1.000	1.000	1.000	1.000	1.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Southern Dumb-bell (for whole period)

		To				
		1	2	3	4	5
From	1	0.000	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000	0.000
	4	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	5	0.000	0.000	0.000	0.000	0.000

Arm 4 is exit only and so the above grid should be ignored for this Arm.

Average PCU Per Vehicle - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Heavy Vehicle Percentages - Northern Dumb-bell (for whole period)

		To			
		1	2	3	4
From	1	Exit-only	Exit-only	Exit-only	Exit-only
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Arm 1 is exit only and so the above grid should be ignored for this Arm.

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
Southern Dumb-bell	**A55 W/B Off-slip**	0.22	0.05	0.29	A	292.72	439.08	20.39	0.05	0.23	20.40	0.05	0.547	1642.419
Southern Dumb-bell	**Holyhead Road South**	0.12	0.07	0.13	A	100.02	150.03	9.49	0.06	0.11	9.49	0.06	0.486	1196.500
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.441	1119.920
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	0.11	0.06	0.12	A	97.21	145.82	8.70	0.06	0.10	8.70	0.06	0.447	1100.405
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-	(Exit-	(Exit-	(Exit-	(Exit-only)	(Exit-	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)

		only)	only)	only)	only)		only)						only)	
Northern Dumb-bell	**A5 Bridge**	0.36	0.08	0.56	A	343.96	515.94	39.00	0.08	0.43	39.00	0.08	0.448	1143.326
Northern Dumb-bell	**A55 E/B Off-slip**	0.04	0.05	0.04	A	39.46	59.19	2.91	0.05	0.03	2.91	0.05	0.532	1443.472
Northern Dumb-bell	**A5 Holyhead Road North**	0.34	0.08	0.52	A	323.00	484.50	35.93	0.07	0.40	35.94	0.07	0.487	1150.984

Main Results

Main results: (12:00-12:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	240.16	60.04	239.46	0.00	79.15	0.00	1599.14	668.26	0.150	0.00	0.18
Southern Dumb-bell	**Holyhead Road South**	82.06	20.52	81.73	73.21	245.40	0.00	1077.20	370.33	0.076	0.00	0.08
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	6.75	320.38	0.00	978.52	263.19	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	38.95	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	79.46	19.87	79.15	281.43	0.00	0.00	1100.40	999.28	0.072	0.00	0.08
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	207.22	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	281.43	70.36	280.14	79.46	0.00	0.00	1143.33	974.75	0.246	0.00	0.32
Northern Dumb-bell	**A55 E/B Off-slip**	32.37	8.09	32.27	0.00	280.14	0.00	1294.54	791.87	0.025	0.00	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	265.00	66.25	263.80	289.52	22.88	0.00	1139.85	889.62	0.232	0.00	0.30

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	286.77	71.69	286.60	0.00	95.13	0.00	1590.41	673.51	0.180	0.18	0.22
Southern Dumb-bell	**Holyhead Road South**	97.99	24.50	97.91	87.96	293.78	0.00	1053.68	361.98	0.093	0.08	0.10
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.09	383.60	0.00	950.62	254.26	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	46.70	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	95.20	23.80	95.13	336.90	0.00	0.00	1100.40	997.69	0.087	0.08	0.09
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	248.34	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-	(Exit-only)	(Exit-only)

										only)		
Northern Dumb-bell	**A5 Bridge**	336.90	84.23	336.54	95.20	0.00	0.00	1143.33	974.75	0.295	0.32	0.41
Northern Dumb-bell	**A55 E/B Off-slip**	38.66	9.66	38.63	0.00	336.54	0.00	1264.55	791.87	0.031	0.03	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	316.44	79.11	316.11	347.75	27.42	0.00	1137.64	889.62	0.278	0.30	0.38

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	351.23	87.81	350.96	0.00	116.47	0.00	1578.74	678.03	0.222	0.22	0.28
Southern Dumb-bell	**Holyhead Road South**	120.01	30.00	119.89	107.69	359.74	0.00	1021.61	358.72	0.117	0.10	0.13
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	9.90	469.73	0.00	912.60	247.47	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	57.18	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	116.56	29.14	116.47	412.55	0.00	0.00	1100.40	1000.98	0.106	0.09	0.12
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	304.05	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	412.55	103.14	411.97	116.56	0.00	0.00	1143.33	974.75	0.361	0.41	0.56
Northern Dumb-bell	**A55 E/B Off-slip**	47.34	11.84	47.31	0.00	411.97	0.00	1224.45	791.87	0.039	0.03	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	387.56	96.89	387.03	425.70	33.58	0.00	1134.64	889.62	0.342	0.38	0.51

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	351.23	87.81	351.22	0.00	116.70	0.00	1578.61	678.03	0.222	0.28	0.29
Southern Dumb-bell	**Holyhead Road South**	120.01	30.00	120.01	107.90	360.03	0.00	1021.47	358.72	0.117	0.13	0.13
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	9.91	470.13	0.00	912.43	247.47	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	57.25	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	116.71	29.18	116.70	412.88	0.00	0.00	1100.40	1000.98	0.106	0.12	0.12
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	304.46	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	412.88	103.22	412.87	116.71	0.00	0.00	1143.33	974.75	0.361	0.56	0.56

Northern Dumb-bell	**A55 E/B Off-slip**	47.34	11.84	47.34	0.00	412.87	0.00	1223.97	791.87	0.039	0.04	0.04
Northern Dumb-bell	**A5 Holyhead Road North**	387.56	96.89	387.55	426.59	33.62	0.00	1134.62	889.62	0.342	0.51	0.52

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	286.77	71.69	287.03	0.00	95.52	0.00	1590.19	673.51	0.180	0.29	0.22
Southern Dumb-bell	**Holyhead Road South**	97.99	24.50	98.11	88.31	294.25	0.00	1053.45	361.98	0.093	0.13	0.10
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	8.10	384.26	0.00	950.33	254.26	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	46.82	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	95.43	23.86	95.52	337.44	0.00	0.00	1100.40	997.69	0.087	0.12	0.10
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	249.01	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	337.44	84.36	338.01	95.43	0.00	0.00	1143.33	974.75	0.295	0.56	0.42
Northern Dumb-bell	**A55 E/B Off-slip**	38.66	9.66	38.69	0.00	338.01	0.00	1263.77	791.87	0.031	0.04	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	316.44	79.11	316.96	349.21	27.49	0.00	1137.60	889.62	0.278	0.52	0.39

Main results: (13:15-13:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
Southern Dumb-bell	**A55 W/B Off-slip**	240.16	60.04	240.33	0.00	79.96	0.00	1598.70	670.14	0.150	0.22	0.18
Southern Dumb-bell	**Holyhead Road South**	82.06	20.52	82.14	73.92	246.38	0.00	1076.73	364.43	0.076	0.10	0.08
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.00	6.78	321.74	0.00	977.92	259.30	0.000	0.00	0.00
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	39.20	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	79.89	19.97	79.96	282.54	0.00	0.00	1100.40	995.26	0.073	0.10	0.08
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	208.46	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	282.54	70.63	282.90	79.89	0.00	0.00	1143.33	974.75	0.247	0.42	0.33
Northern Dumb-bell	**A55 E/B Off-slip**	32.37	8.09	32.40	0.00	282.90	0.00	1293.07	791.87	0.025	0.03	0.03
Northern Dumb-bell	**A5 Holyhead Road North**	265.00	66.25	265.34	292.29	23.01	0.00	1139.78	889.62	0.233	0.39	0.30

Queueing Delay Results

Queueing Delay results: (12:00-12:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.60	0.17	0.044	A	A
Southern Dumb-bell	Holyhead Road South	1.21	0.08	0.060	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.14	0.08	0.059	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.75	0.32	0.069	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.38	0.03	0.048	A	A
Northern Dumb-bell	A5 Holyhead Road North	4.41	0.29	0.068	A	A

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	3.25	0.22	0.046	A	A
Southern Dumb-bell	Holyhead Road South	1.51	0.10	0.063	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.40	0.09	0.060	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	6.11	0.41	0.074	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.47	0.03	0.049	A	A
Northern Dumb-bell	A5 Holyhead Road North	5.64	0.38	0.073	A	A

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	4.22	0.28	0.049	A	A
Southern Dumb-bell	Holyhead Road South	1.96	0.13	0.067	A	A

Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.75	0.12	0.061	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	8.22	0.55	0.082	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.59	0.04	0.051	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	7.56	0.50	0.080	A	A

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	4.28	0.29	0.049	A	A
Southern Dumb-bell	**Holyhead Road South**	1.99	0.13	0.067	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.77	0.12	0.061	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	8.42	0.56	0.082	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.60	0.04	0.051	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	7.74	0.52	0.080	A	A

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	**A55 W/B Off-slip**	3.35	0.22	0.046	A	A
Southern Dumb-bell	**Holyhead Road South**	1.57	0.10	0.063	A	A
Southern Dumb-bell	**A55 W/B On-slip**	0.00	0.00	0.000	A	A
Southern Dumb-bell	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	**A5 Bridge**	1.45	0.10	0.060	A	A
Northern Dumb-bell	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	**A5 Bridge**	6.45	0.43	0.075	A	A
Northern Dumb-bell	**A55 E/B Off-slip**	0.48	0.03	0.049	A	A
Northern Dumb-bell	**A5 Holyhead Road North**	5.93	0.40	0.073	A	A

Queueing Delay results: (13:15-13:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
Southern Dumb-bell	A55 W/B Off-slip	2.69	0.18	0.044	A	A
Southern Dumb-bell	Holyhead Road South	1.26	0.08	0.060	A	A
Southern Dumb-bell	A55 W/B On-slip	0.00	0.00	0.000	A	A
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	1.19	0.08	0.059	A	A
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	5.04	0.34	0.070	A	A
Northern Dumb-bell	A55 E/B Off-slip	0.39	0.03	0.048	A	A
Northern Dumb-bell	A5 Holyhead Road North	4.65	0.31	0.069	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
Southern Dumb-bell	A55 W/B Off-slip	5.00	6.00	3.00	21.00	59.50	34.00		0.547	1642.419
Southern Dumb-bell	Holyhead Road South	3.75	3.75	0.00	22.00	59.50	16.00		0.486	1196.500
Southern Dumb-bell	A55 W/B On-slip	2.50	6.00	8.00	15.50	59.50	45.00		0.441	1119.920
Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Southern Dumb-bell	A5 Bridge	3.75	3.75	0.00	15.50	59.50	35.00		0.447	1100.405
Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	(Exit-only)	Yes	(Exit-only)	(Exit-only)
Northern Dumb-bell	A5 Bridge	4.00	4.00	0.00	21.00	59.50	47.00		0.448	1143.326
Northern Dumb-bell	A55 E/B Off-slip	4.00	5.00	3.00	20.00	59.50	12.00		0.532	1443.472

Northern Dumb-bell	A5 Holyhead Road North	3.50	3.50	0.00	24.50	59.50	8.00		0.487	1150.984

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	Southern Dumb-bell	A55 W/B Off-slip	240.16	1599.14	0.150	0.00	0.00	0.18	2.60	(0.02)	0.044
1	Southern Dumb-bell	Holyhead Road South	82.06	1077.20	0.076	0.00	0.00	0.08	1.21	(0.02)	0.060
1	Southern Dumb-bell	A55 W/B On-slip	0.00	978.52	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
1	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Southern Dumb-bell	A5 Bridge	79.46	1100.40	0.072	0.00	0.00	0.08	1.14	(0.02)	0.059
1	Northern Dumb-bell	A55 E/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
1	Northern Dumb-bell	A5 Bridge	281.43	1143.33	0.246	0.00	0.00	0.32	4.75	(0.02)	0.069
1	Northern Dumb-bell	A55 E/B Off-slip	32.37	1294.54	0.025	0.00	0.00	0.03	0.38	(0.02)	0.048
1	Northern Dumb-bell	A5 Holyhead Road North	265.00	1139.85	0.232	0.00	0.00	0.30	4.41	(0.02)	0.068
2	Southern Dumb-bell	A55 W/B Off-slip	286.77	1590.41	0.180	0.00	0.18	0.22	3.25	(0.02)	0.046
2	Southern Dumb-bell	Holyhead Road South	97.99	1053.68	0.093	0.00	0.08	0.10	1.51	(0.02)	0.063
2	Southern Dumb-bell	A55 W/B On-slip	0.00	950.62	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	Southern Dumb-bell	A55 W/B On-slip	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

2	**Southern Dumb-bell**	**A5 Bridge**	95.20	1100.40	0.087	0.00	0.08	0.09	1.40	(0.02)	0.060
2	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
2	**Northern Dumb-bell**	**A5 Bridge**	336.90	1143.33	0.295	0.00	0.32	0.41	6.11	(0.02)	0.074
2	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	1264.55	0.031	0.00	0.03	0.03	0.47	(0.02)	0.049
2	**Northern Dumb-bell**	**A5 Holyhead Road North**	316.44	1137.64	0.278	0.00	0.30	0.38	5.64	(0.02)	0.073
3	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	1578.74	0.222	0.00	0.22	0.28	4.22	(0.02)	0.049
3	**Southern Dumb-bell**	**Holyhead Road South**	120.01	1021.61	0.117	0.00	0.10	0.13	1.96	(0.02)	0.067
3	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	912.60	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Southern Dumb-bell**	**A5 Bridge**	116.56	1100.40	0.106	0.00	0.09	0.12	1.75	(0.02)	0.061
3	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
3	**Northern Dumb-bell**	**A5 Bridge**	412.55	1143.33	0.361	0.00	0.41	0.56	8.22	(0.02)	0.082
3	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	1224.45	0.039	0.00	0.03	0.04	0.59	(0.02)	0.051
3	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	1134.64	0.342	0.00	0.38	0.51	7.56	(0.02)	0.080
4	**Southern Dumb-bell**	**A55 W/B Off-slip**	351.23	1578.61	0.222	0.00	0.28	0.29	4.28	(0.02)	0.049
4	**Southern Dumb-bell**	**Holyhead Road South**	120.01	1021.47	0.117	0.00	0.13	0.13	1.99	(0.02)	0.067
4	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	912.43	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

4	**Southern Dumb-bell**	**A5 Bridge**	116.71	1100.40	0.106	0.00	0.12	0.12	1.77	(0.02)	0.061
4	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
4	**Northern Dumb-bell**	**A5 Bridge**	412.88	1143.33	0.361	0.00	0.56	0.56	8.42	(0.02)	0.082
4	**Northern Dumb-bell**	**A55 E/B Off-slip**	47.34	1223.97	0.039	0.00	0.04	0.04	0.60	(0.02)	0.051
4	**Northern Dumb-bell**	**A5 Holyhead Road North**	387.56	1134.62	0.342	0.00	0.51	0.52	7.74	(0.02)	0.080
5	**Southern Dumb-bell**	**A55 W/B Off-slip**	286.77	1590.19	0.180	0.00	0.29	0.22	3.35	(0.02)	0.046
5	**Southern Dumb-bell**	**Holyhead Road South**	97.99	1053.45	0.093	0.00	0.13	0.10	1.57	(0.02)	0.063
5	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	950.33	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
5	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Southern Dumb-bell**	**A5 Bridge**	95.43	1100.40	0.087	0.00	0.12	0.10	1.45	(0.02)	0.060
5	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
5	**Northern Dumb-bell**	**A5 Bridge**	337.44	1143.33	0.295	0.00	0.56	0.42	6.45	(0.02)	0.075
5	**Northern Dumb-bell**	**A55 E/B Off-slip**	38.66	1263.77	0.031	0.00	0.04	0.03	0.48	(0.02)	0.049
5	**Northern Dumb-bell**	**A5 Holyhead Road North**	316.44	1137.60	0.278	0.00	0.52	0.39	5.93	(0.02)	0.073
6	**Southern Dumb-bell**	**A55 W/B Off-slip**	240.16	1598.70	0.150	0.00	0.22	0.18	2.69	(0.02)	0.044
6	**Southern Dumb-bell**	**Holyhead Road South**	82.06	1076.73	0.076	0.00	0.10	0.08	1.26	(0.02)	0.060
6	**Southern Dumb-bell**	**A55 W/B On-slip**	0.00	977.92	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
6	**Southern Dumb-bell**	**A55 W/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)

6	**Southern Dumb-bell**	**A5 Bridge**	79.89	1100.40	0.073	0.00	0.10	0.08	1.19	(0.02)	0.059
6	**Northern Dumb-bell**	**A55 E/B On-slip**	(Exit-only)	(Exit-only)	(Exit-only)	0.00	(Exit-only)	(Exit-only)	(Exit-only)	(0.02)	(Exit-only)
6	**Northern Dumb-bell**	**A5 Bridge**	282.54	1143.33	0.247	0.00	0.42	0.33	5.04	(0.02)	0.070
6	**Northern Dumb-bell**	**A55 E/B Off-slip**	32.37	1293.07	0.025	0.00	0.03	0.03	0.39	(0.02)	0.048
6	**Northern Dumb-bell**	**A5 Holyhead Road North**	265.00	1139.78	0.233	0.00	0.39	0.30	4.65	(0.02)	0.069

ARCADY 7

Version: 7.1.1.245 [9th June 2011]

For sales and distribution information, program advice and maintenance, contact TRL:
Tel: +44 (0)1344 770758 E-mail: software@trl.co.uk Web: http://www.trlsoftware.co.uk

File: L:\Manchester Projects\90145 Penrhos Leisure Village Anglesey\I -Calculations\Revised Part Cybi\Modelling\4. A5153_Kingsland Rd_Parc Cybi_2032_Flat.arc7
Report generation date: 25/02/2013 14:09:21

Summary of roundabout performance

	AM		PM		Sat	
	Queue (PCU)	RFC	Queue (PCU)	RFC	Queue (PCU)	RFC
	(Default Analysis Set) - Base+Com 2032					
4. Kingsland Road/A5153 - A5153	0.13	0.12	0.45	0.31	0.18	0.15
4. Kingsland Road/A5153 - Kingsland Road (S)	0.39	0.28	0.35	0.26	0.22	0.18
4. Kingsland Road/A5153 - Access	0.04	0.04	0.11	0.10	0.07	0.07
4. Kingsland Road/A5153 - Kingsland Road (N)	0.19	0.16	0.23	0.19	0.20	0.16

5. A5153/Parc Cybi - A5153 (E)	1.43	0.59	0.80	0.44	0.21	0.17
5. A5153/Parc Cybi - Parc Cybi	0.17	0.15	2.44	0.71	0.01	0.01
5. A5153/Parc Cybi - A5153 (W)	0.34	0.25	0.34	0.26	0.13	0.12
5. A5153/Parc Cybi - Stub	0.00	0.00	0.00	0.00	0.00	0.00
	(Default Analysis Set) - Base+Com+Dev 2032					
4. Kingsland Road/A5153 - A5153	0.17	0.14	0.59	0.37	0.24	0.20
4. Kingsland Road/A5153 - Kingsland Road (S)	0.57	0.36	0.46	0.32	0.31	0.24
4. Kingsland Road/A5153 - Access	0.04	0.04	0.11	0.10	0.08	0.07
4. Kingsland Road/A5153 - Kingsland Road (N)	0.22	0.18	0.27	0.21	0.23	0.18
5. A5153/Parc Cybi - A5153 (E)	1.88	0.65	1.18	0.54	0.32	0.24
5. A5153/Parc Cybi - Parc Cybi	0.22	0.18	3.21	0.77	0.03	0.03
5. A5153/Parc Cybi - A5153 (W)	0.46	0.32	0.44	0.31	0.18	0.16
5. A5153/Parc Cybi - Stub	0.00	0.00	0.00	0.00	0.00	0.00
	(Default Analysis Set) - Base+Dev 2032					
4. Kingsland Road/A5153 - A5153	0.14	0.12	0.29	0.22	0.24	0.20
4. Kingsland Road/A5153 - Kingsland Road (S)	0.40	0.29	0.37	0.27	0.31	0.24
4. Kingsland Road/A5153 - Access	0.04	0.04	0.10	0.09	0.08	0.07
4. Kingsland Road/A5153 - Kingsland Road (N)	0.12	0.11	0.22	0.18	0.23	0.18
5. A5153/Parc Cybi - A5153 (E)	0.20	0.17	0.39	0.28	0.32	0.24
5. A5153/Parc Cybi - Parc Cybi	0.05	0.04	0.05	0.05	0.03	0.03
5. A5153/Parc Cybi - A5153 (W)	0.19	0.16	0.20	0.17	0.18	0.16
5. A5153/Parc Cybi - Stub	0.00	0.00	0.00	0.00	0.00	0.00

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

Base+Com 2032 - AM runs from 08:30:00 to 09:30:00
Base+Com 2032 - PM runs from 15:45:00 to 16:45:00
Base+Com 2032 - Sat runs from 12:15:00 to 13:15:00
Base+Com+Dev 2032 - AM runs from 08:30:00 to 09:30:00
Base+Com+Dev 2032 - PM runs from 15:45:00 to 16:45:00
Base+Com+Dev 2032 - Sat runs from 12:15:00 to 13:15:00
Base+Dev 2032 - AM runs from 08:30:00 to 09:30:00

Base+Dev 2032 - PM runs from 15:45:00 to 16:45:00
Base+Dev 2032 - Sat runs from 12:15:00 to 13:15:00

File summary

File Description

Title	A5153/Kingsland Road/Parc Cybi
Location	
Site Number	
Date	01/02/2013
Version	
Status	
Identifier	
Client	
Jobnumber	
Enumerator	T Nichol
Description	

Analysis Options

RFC Threshold	Vehicle Length (m)	Do Queue Variations
0.85	5.75	

Sorting and Display

Show Arm Names	Arm Grouping	Sorting Direction	Sorting Type	Data Matrix Style	Time Style
Yes	Order	Ascending	Numerical	By Destination	Absolute Time

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	PCU	PCU	perHour	min	-Min	perMin

A1 - (Default Analysis Set) - D7 - Base+Com 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, AM	Base+Com 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	

2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	**A5153**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Access**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (E)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Parc Cybi**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (W)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Stub**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	A5153	None
4. Kingsland Road/A5153	Kingsland Road (S)	None
4. Kingsland Road/A5153	Access	None
4. Kingsland Road/A5153	Kingsland Road (N)	None
5. A5153/Parc Cybi	A5153 (E)	None
5. A5153/Parc Cybi	Parc Cybi	None
5. A5153/Parc Cybi	A5153 (W)	None
5. A5153/Parc Cybi	Stub	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	Stub		((calculated))	((calculated))	0.618	1524.323

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	A5153	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	Kingsland Road (S)	FLAT	Yes	366.00	100.000	1.00
4. Kingsland Road/A5153	Access	FLAT	Yes	19.00	100.000	1.00
4. Kingsland Road/A5153	Kingsland Road (N)	FLAT	Yes	243.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (E)	FLAT	Yes	721.00	100.000	1.00
5. A5153/Parc Cybi	Parc Cybi	FLAT	Yes	190.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (W)	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	Stub	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	A5153	2	3	Yes			16.00
5. A5153/Parc Cybi	A5153 (W)	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (S)	366.00	366.00	N/A	N/A
1	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (N)	243.00	243.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (E)	721.00	721.00	N/A	N/A
1	5. A5153/Parc Cybi	Parc Cybi	190.00	190.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A

1	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (S)	366.00	366.00	N/A	N/A
2	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (N)	243.00	243.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (E)	721.00	721.00	N/A	N/A
2	5. A5153/Parc Cybi	Parc Cybi	190.00	190.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
2	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	366.00	366.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	243.00	243.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	721.00	721.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	190.00	190.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	366.00	366.00	N/A	N/A
4	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	243.00	243.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	721.00	721.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	190.00	190.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
From		1	2	3	4

	1	0.000	105.000	3.000	73.000
	2	196.000	0.000	5.000	165.000
	3	7.000	7.000	0.000	5.000
	4	143.000	94.000	6.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.58	0.02	0.40
	2	0.54	0.00	0.01	0.45
	3	0.37	0.37	0.00	0.26
	4	0.59	0.39	0.02	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	581.000	140.000	0.000
	2	150.000	0.000	40.000	0.000
	3	152.000	192.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.81	0.19	0.00
	2	0.79	0.00	0.21	0.00
	3	0.44	0.56	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153	0.12	0.04	0.13	A	179.69	179.69	8.01	0.04	0.13	8.01	0.04	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)	0.28	0.06	0.39	A	366.00	366.00	22.92	0.06	0.38	22.92	0.06	0.572	1361.788
4. Kingsland Road/A5153	Access	0.04	0.13	0.04	A	19.00	19.00	2.43	0.13	0.04	2.43	0.13	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)	0.16	0.05	0.19	A	243.00	243.00	11.53	0.05	0.19	11.53	0.05	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)	0.59	0.12	1.43	A	721.00	721.00	83.79	0.12	1.40	83.84	0.12	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi	0.15	0.05	0.17	A	190.00	190.00	10.18	0.05	0.17	10.18	0.05	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)	0.25	0.06	0.34	A	345.66	345.66	20.07	0.06	0.33	20.08	0.06	0.600	1459.237
5. A5153/Parc Cybi	Stub	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.618	1524.323

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	A5153	178.77	44.69	178.23	344.67	106.62	0.00	1517.03	1354.51	0.118	0.00	0.13
4. Kingsland Road/A5153	Kingsland Road (S)	366.00	91.50	364.47	204.04	80.82	0.00	1315.59	663.57	0.278	0.00	0.38
4. Kingsland Road/A5153	Access	19.00	4.75	18.84	13.91	431.37	0.00	481.94	102.03	0.039	0.00	0.04
4. Kingsland Road/A5153	Kingsland Road (N)	243.00	60.75	242.23	241.15	209.06	0.00	1499.95	795.77	0.162	0.00	0.19
5. A5153/Parc Cybi	A5153 (E)	721.00	180.25	715.39	301.17	191.62	0.00	1225.21	878.34	0.588	0.00	1.40
5. A5153/Parc Cybi	Parc Cybi	190.00	47.50	189.32	768.10	138.91	0.00	1302.14	1153.60	0.146	0.00	0.17
5. A5153/Parc Cybi	A5153 (W)	344.67	86.17	343.33	178.77	149.46	0.00	1369.54	847.06	0.252	0.00	0.33
5. A5153/Parc Cybi	Stub	0.00	0.00	0.00	0.00	492.79	0.00	1219.60	437.36	0.000	0.00	0.00

Main results: (08:45-09:00)

Roundabout	Arm	Demand	Arrivals	Entry Flow	Exit Flow	Circulating	Pedestrian	Capacity	Saturation	RFC	Start	End

		(PCU/hr)	(PCU)	(PCU/hr)	(PCU/hr)	Flow (PCU/hr)	Demand (Ped/hr)	(PCU/hr)	Capacity (PCU/hr)		Queue (PCU)	Queue (PCU)
4. Kingsland Road/A5153	**A5153**	179.99	45.00	179.98	346.00	107.00	0.00	1516.80	1357.20	0.119	0.13	0.13
4. Kingsland Road/A5153	**Kingsland Road (S)**	366.00	91.50	366.00	205.41	81.57	0.00	1315.16	681.26	0.278	0.38	0.38
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.98	433.59	0.00	481.16	123.14	0.039	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	243.00	60.75	243.00	242.59	210.00	0.00	1499.35	766.46	0.162	0.19	0.19
5. A5153/Parc Cybi	**A5153 (E)**	721.00	180.25	720.94	302.88	193.11	0.00	1224.37	878.35	0.589	1.40	1.42
5. A5153/Parc Cybi	**Parc Cybi**	190.00	47.50	190.00	774.06	139.99	0.00	1301.50	1153.60	0.146	0.17	0.17
5. A5153/Parc Cybi	**A5153 (W)**	346.00	86.50	345.99	179.99	150.00	0.00	1369.22	847.06	0.253	0.33	0.34
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	495.99	0.00	1217.62	437.35	0.000	0.00	0.00

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	180.00	45.00	180.00	346.00	107.00	0.00	1516.80	1357.20	0.119	0.13	0.13
4. Kingsland Road/A5153	**Kingsland Road (S)**	366.00	91.50	366.00	205.42	81.58	0.00	1315.15	681.26	0.278	0.38	0.38
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.98	433.59	0.00	481.16	123.14	0.039	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	243.00	60.75	243.00	242.59	210.00	0.00	1499.34	766.46	0.162	0.19	0.19
5. A5153/Parc Cybi	**A5153 (E)**	721.00	180.25	720.98	302.88	193.11	0.00	1224.37	878.35	0.589	1.42	1.42
5. A5153/Parc Cybi	**Parc Cybi**	190.00	47.50	190.00	774.10	140.00	0.00	1301.50	1153.60	0.146	0.17	0.17
5. A5153/Parc Cybi	**A5153 (W)**	346.00	86.50	346.00	180.00	150.00	0.00	1369.22	847.06	0.253	0.34	0.34
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	496.00	0.00	1217.61	437.35	0.000	0.00	0.00

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	180.00	45.00	180.00	346.00	107.00	0.00	1516.80	1357.20	0.119	0.13	0.13
4. Kingsland Road/A5153	**Kingsland Road (S)**	366.00	91.50	366.00	205.42	81.58	0.00	1315.15	681.26	0.278	0.38	0.39
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.98	433.60	0.00	481.16	123.14	0.039	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	243.00	60.75	243.00	242.60	210.00	0.00	1499.34	766.46	0.162	0.19	0.19
5. A5153/Parc Cybi	**A5153 (E)**	721.00	180.25	720.99	302.88	193.12	0.00	1224.36	878.35	0.589	1.42	1.43
5. A5153/Parc Cybi	**Parc Cybi**	190.00	47.50	190.00	774.11	140.00	0.00	1301.49	1153.60	0.146	0.17	0.17

5. A5153/Parc Cybi	**A5153 (W)**	346.00	86.50	346.00	180.00	150.00	0.00	1369.22	847.06	0.253	0.34	0.34
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	496.00	0.00	1217.61	437.35	0.000	0.00	0.00

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	1.97	0.13	0.045	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.61	0.37	0.063	A	A
4. Kingsland Road/A5153	**Access**	0.59	0.04	0.130	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	2.84	0.19	0.048	A	A
5. A5153/Parc Cybi	**A5153 (E)**	19.93	1.33	0.116	A	A
5. A5153/Parc Cybi	**Parc Cybi**	2.50	0.17	0.054	A	A
5. A5153/Parc Cybi	**A5153 (W)**	4.91	0.33	0.058	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.01	0.13	0.045	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.76	0.38	0.063	A	A
4. Kingsland Road/A5153	**Access**	0.61	0.04	0.130	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	2.89	0.19	0.048	A	A
5. A5153/Parc Cybi	**A5153 (E)**	21.19	1.41	0.119	A	A
5. A5153/Parc Cybi	**Parc Cybi**	2.56	0.17	0.054	A	A
5. A5153/Parc Cybi	**A5153 (W)**	5.04	0.34	0.059	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.02	0.13	0.045	A	A

4. Kingsland Road/A5153	**Kingsland Road (S)**	5.77	0.38	0.063	A	A
4. Kingsland Road/A5153	**Access**	0.61	0.04	0.130	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	2.90	0.19	0.048	A	A
5. A5153/Parc Cybi	**A5153 (E)**	21.31	1.42	0.119	A	A
5. A5153/Parc Cybi	**Parc Cybi**	2.56	0.17	0.054	A	A
5. A5153/Parc Cybi	**A5153 (W)**	5.06	0.34	0.059	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.02	0.13	0.045	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.77	0.38	0.063	A	A
4. Kingsland Road/A5153	**Access**	0.62	0.04	0.130	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	2.90	0.19	0.048	A	A
5. A5153/Parc Cybi	**A5153 (E)**	21.36	1.42	0.119	A	A
5. A5153/Parc Cybi	**Parc Cybi**	2.56	0.17	0.054	A	A
5. A5153/Parc Cybi	**A5153 (W)**	5.06	0.34	0.059	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867

5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**4. Kingsland Road/A5153**	**A5153**	178.77	1517.03	0.118	0.00	0.00	0.13	1.97	(0.02)	0.045
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	366.00	1315.59	0.278	0.00	0.00	0.38	5.61	(0.02)	0.063
1	**4. Kingsland Road/A5153**	**Access**	19.00	481.94	0.039	0.00	0.00	0.04	0.59	(0.02)	0.130
1	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	243.00	1499.95	0.162	0.00	0.00	0.19	2.84	(0.02)	0.048
1	**5. A5153/Parc Cybi**	**A5153 (E)**	721.00	1225.21	0.588	0.00	0.00	1.40	19.93	(0.02)	0.116
1	**5. A5153/Parc Cybi**	**Parc Cybi**	190.00	1302.14	0.146	0.00	0.00	0.17	2.50	(0.02)	0.054
1	**5. A5153/Parc Cybi**	**A5153 (W)**	344.67	1369.54	0.252	0.00	0.00	0.33	4.91	(0.02)	0.058
1	**5. A5153/Parc Cybi**	**Stub**	0.00	1219.60	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**4. Kingsland Road/A5153**	**A5153**	179.99	1516.80	0.119	0.00	0.13	0.13	2.01	(0.02)	0.045
2	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	366.00	1315.16	0.278	0.00	0.38	0.38	5.76	(0.02)	0.063
2	**4. Kingsland Road/A5153**	**Access**	19.00	481.16	0.039	0.00	0.04	0.04	0.61	(0.02)	0.130
2	**4. Kingsland**	**Kingsland**	243.00	1499.35	0.162	0.00	0.19	0.19	2.89	(0.02)	0.048

	Road/A5153	**Road (N)**									
2	**5. A5153/Parc Cybi**	**A5153 (E)**	721.00	1224.37	0.589	0.00	1.40	1.42	21.19	(0.02)	0.119
2	**5. A5153/Parc Cybi**	**Parc Cybi**	190.00	1301.50	0.146	0.00	0.17	0.17	2.56	(0.02)	0.054
2	**5. A5153/Parc Cybi**	**A5153 (W)**	346.00	1369.22	0.253	0.00	0.33	0.34	5.04	(0.02)	0.059
2	**5. A5153/Parc Cybi**	**Stub**	0.00	1217.62	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	180.00	1516.80	0.119	0.00	0.13	0.13	2.02	(0.02)	0.045
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	366.00	1315.15	0.278	0.00	0.38	0.38	5.77	(0.02)	0.063
3	**4. Kingsland Road/A5153**	**Access**	19.00	481.16	0.039	0.00	0.04	0.04	0.61	(0.02)	0.130
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	243.00	1499.34	0.162	0.00	0.19	0.19	2.90	(0.02)	0.048
3	**5. A5153/Parc Cybi**	**A5153 (E)**	721.00	1224.37	0.589	0.00	1.42	1.42	21.31	(0.02)	0.119
3	**5. A5153/Parc Cybi**	**Parc Cybi**	190.00	1301.50	0.146	0.00	0.17	0.17	2.56	(0.02)	0.054
3	**5. A5153/Parc Cybi**	**A5153 (W)**	346.00	1369.22	0.253	0.00	0.34	0.34	5.06	(0.02)	0.059
3	**5. A5153/Parc Cybi**	**Stub**	0.00	1217.61	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**4. Kingsland Road/A5153**	**A5153**	180.00	1516.80	0.119	0.00	0.13	0.13	2.02	(0.02)	0.045
4	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	366.00	1315.15	0.278	0.00	0.38	0.39	5.77	(0.02)	0.063
4	**4. Kingsland Road/A5153**	**Access**	19.00	481.16	0.039	0.00	0.04	0.04	0.62	(0.02)	0.130
4	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	243.00	1499.34	0.162	0.00	0.19	0.19	2.90	(0.02)	0.048
4	**5. A5153/Parc Cybi**	**A5153 (E)**	721.00	1224.36	0.589	0.00	1.42	1.43	21.36	(0.02)	0.119
4	**5. A5153/Parc**	**Parc Cybi**	190.00	1301.49	0.146	0.00	0.17	0.17	2.56	(0.02)	0.054

	Cybi										
4	**5. A5153/Parc Cybi**	**A5153 (W)**	346.00	1369.22	0.253	0.00	0.34	0.34	5.06	(0.02)	0.059
4	**5. A5153/Parc Cybi**	**Stub**	0.00	1217.61	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D8 - Base+Com 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com 2032, PM	Base+Com 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	**A5153**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Access**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (E)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Parc Cybi**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (W)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Stub**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00	

4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	**A5153**	None
4. Kingsland Road/A5153	**Kingsland Road (S)**	None
4. Kingsland Road/A5153	**Access**	None
4. Kingsland Road/A5153	**Kingsland Road (N)**	None
5. A5153/Parc Cybi	**A5153 (E)**	None
5. A5153/Parc Cybi	**Parc Cybi**	None
5. A5153/Parc Cybi	**A5153 (W)**	None
5. A5153/Parc Cybi	**Stub**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	**Access**		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**		((calculated))	((calculated))	0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	**Stub**		((calculated))	((calculated))	0.618	1524.323

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	A5153	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	Kingsland Road (S)	FLAT	Yes	317.00	100.000	1.00
4. Kingsland Road/A5153	Access	FLAT	Yes	45.00	100.000	1.00
4. Kingsland Road/A5153	Kingsland Road (N)	FLAT	Yes	288.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (E)	FLAT	Yes	572.00	100.000	1.00
5. A5153/Parc Cybi	Parc Cybi	FLAT	Yes	888.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (W)	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	Stub	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	A5153	2	3	Yes			16.00
5. A5153/Parc Cybi	A5153 (W)	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (S)	317.00	317.00	N/A	N/A
1	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (N)	288.00	288.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (E)	572.00	572.00	N/A	N/A
1	5. A5153/Parc Cybi	Parc Cybi	888.00	888.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
1	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (S)	317.00	317.00	N/A	N/A
2	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (N)	288.00	288.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (E)	572.00	572.00	N/A	N/A
2	5. A5153/Parc Cybi	Parc Cybi	888.00	888.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
2	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	317.00	317.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	288.00	288.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	572.00	572.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	888.00	888.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	317.00	317.00	N/A	N/A
4	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	288.00	288.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	572.00	572.00	N/A	N/A

4	**5. A5153/Parc Cybi**	**Parc Cybi**	888.00	888.00	N/A	N/A
4	**5. A5153/Parc Cybi**	**A5153 (W)**	0.00	0.00	N/A	N/A
4	**5. A5153/Parc Cybi**	**Stub**	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	241.000	36.000	182.000
	2	152.000	0.000	8.000	157.000
	3	19.000	5.000	0.000	21.000
	4	101.000	158.000	29.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.53	0.08	0.40
	2	0.48	0.00	0.03	0.50
	3	0.42	0.11	0.00	0.47
	4	0.35	0.55	0.10	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	342.000	230.000	0.000
	2	660.000	0.000	228.000	0.000
	3	189.000	87.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.60	0.40	0.00
	2	0.74	0.00	0.26	0.00
	3	0.68	0.32	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000

	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153	0.31	0.06	0.45	A	457.05	457.05	26.96	0.06	0.45	26.97	0.06	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)	0.26	0.07	0.35	A	317.00	317.00	20.83	0.07	0.35	20.83	0.07	0.572	1361.788
4. Kingsland Road/A5153	Access	0.10	0.14	0.11	A	45.00	45.00	6.38	0.14	0.11	6.38	0.14	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)	0.19	0.05	0.23	A	288.00	288.00	13.91	0.05	0.23	13.91	0.05	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)	0.44	0.08	0.80	A	572.00	572.00	47.39	0.08	0.79	47.40	0.08	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi	0.71	0.17	2.44	A	888.00	888.00	141.72	0.16	2.36	141.87	0.16	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)	0.26	0.08	0.34	A	271.70	271.70	20.33	0.07	0.34	20.33	0.07	0.600	1459.237
5. A5153/Parc Cybi	Stub	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.618	1524.323

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand	Capacity (PCU/hr)	Saturation Capacity	RFC	Start Queue	End Queue

							(Ped/hr)		(PCU/hr)		(PCU)	(PCU)
4. Kingsland Road/A5153	**A5153**	454.29	113.57	452.50	270.83	191.35	0.00	1463.76	1075.12	0.310	0.00	0.45
4. Kingsland Road/A5153	**Kingsland Road (S)**	317.00	79.25	315.61	400.03	243.82	0.00	1222.40	947.51	0.259	0.00	0.35
4. Kingsland Road/A5153	**Access**	45.00	11.25	44.57	72.36	487.06	0.00	462.22	146.16	0.097	0.00	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	288.00	72.00	287.07	356.53	175.10	0.00	1521.86	1221.58	0.189	0.00	0.23
5. A5153/Parc Cybi	**A5153 (E)**	572.00	143.00	568.83	837.48	84.94	0.00	1285.96	961.24	0.445	0.00	0.79
5. A5153/Parc Cybi	**Parc Cybi**	888.00	222.00	878.51	425.05	228.72	0.00	1248.84	1012.65	0.711	0.00	2.37
5. A5153/Parc Cybi	**A5153 (W)**	270.83	67.71	269.48	454.29	652.95	0.00	1067.38	935.47	0.254	0.00	0.34
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	922.42	0.00	953.92	480.44	0.000	0.00	0.00

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	457.95	114.49	457.92	272.00	192.00	0.00	1463.35	1087.66	0.313	0.45	0.45
4. Kingsland Road/A5153	**Kingsland Road (S)**	317.00	79.25	316.99	403.43	246.49	0.00	1220.88	969.03	0.260	0.35	0.35
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	72.92	490.57	0.00	460.98	147.42	0.098	0.11	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	288.00	72.00	288.00	359.57	176.00	0.00	1521.29	1190.67	0.189	0.23	0.23
5. A5153/Parc Cybi	**A5153 (E)**	572.00	143.00	571.98	846.11	85.73	0.00	1285.51	961.23	0.445	0.79	0.80
5. A5153/Parc Cybi	**Parc Cybi**	888.00	222.00	887.81	427.72	229.99	0.00	1248.09	1012.65	0.711	2.37	2.42
5. A5153/Parc Cybi	**A5153 (W)**	272.00	68.00	271.98	457.95	659.86	0.00	1063.23	935.47	0.256	0.34	0.34
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	931.84	0.00	948.10	480.44	0.000	0.00	0.00

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	457.98	114.50	457.98	272.00	192.00	0.00	1463.35	1087.66	0.313	0.45	0.45
4. Kingsland Road/A5153	**Kingsland Road (S)**	317.00	79.25	317.00	403.46	246.51	0.00	1220.86	969.03	0.260	0.35	0.35
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	72.92	490.59	0.00	460.97	147.42	0.098	0.11	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	288.00	72.00	288.00	359.59	176.00	0.00	1521.29	1190.67	0.189	0.23	0.23
5. A5153/Parc Cybi	**A5153 (E)**	572.00	143.00	571.99	846.21	85.74	0.00	1285.51	961.23	0.445	0.80	0.80
5. A5153/Parc Cybi	**Parc Cybi**	888.00	222.00	887.94	427.73	230.00	0.00	1248.09	1012.65	0.711	2.42	2.43
5. A5153/Parc Cybi	**A5153 (W)**	272.00	68.00	272.00	457.98	659.95	0.00	1063.18	935.47	0.256	0.34	0.34

5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	931.95	0.00	948.03	480.44	0.000	0.00	0.00

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	457.99	114.50	457.99	272.00	192.00	0.00	1463.35	1087.65	0.313	0.45	0.45
4. Kingsland Road/A5153	**Kingsland Road (S)**	317.00	79.25	317.00	403.47	246.52	0.00	1220.86	969.03	0.260	0.35	0.35
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	72.92	490.60	0.00	460.97	147.42	0.098	0.11	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	288.00	72.00	288.00	359.60	176.00	0.00	1521.29	1190.67	0.189	0.23	0.23
5. A5153/Parc Cybi	**A5153 (E)**	572.00	143.00	572.00	846.24	85.74	0.00	1285.51	961.23	0.445	0.80	0.80
5. A5153/Parc Cybi	**Parc Cybi**	888.00	222.00	887.97	427.74	230.00	0.00	1248.09	1012.65	0.711	2.43	2.44
5. A5153/Parc Cybi	**A5153 (W)**	272.00	68.00	272.00	457.99	659.98	0.00	1063.17	935.47	0.256	0.34	0.34
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	931.97	0.00	948.02	480.44	0.000	0.00	0.00

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	6.56	0.44	0.059	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.10	0.34	0.066	A	A
4. Kingsland Road/A5153	**Access**	1.54	0.10	0.144	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.43	0.23	0.049	A	A
5. A5153/Parc Cybi	**A5153 (E)**	11.49	0.77	0.083	A	A
5. A5153/Parc Cybi	**Parc Cybi**	32.71	2.18	0.158	A	A
5. A5153/Parc Cybi	**A5153 (W)**	4.93	0.33	0.075	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	6.78	0.45	0.060	A	A

4. Kingsland Road/A5153	**Kingsland Road (S)**	5.23	0.35	0.066	A	A
4. Kingsland Road/A5153	**Access**	1.61	0.11	0.144	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.49	0.23	0.049	A	A
5. A5153/Parc Cybi	**A5153 (E)**	11.94	0.80	0.084	A	A
5. A5153/Parc Cybi	**Parc Cybi**	36.01	2.40	0.166	A	A
5. A5153/Parc Cybi	**A5153 (W)**	5.11	0.34	0.076	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	6.81	0.45	0.060	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.25	0.35	0.066	A	A
4. Kingsland Road/A5153	**Access**	1.62	0.11	0.144	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.50	0.23	0.049	A	A
5. A5153/Parc Cybi	**A5153 (E)**	11.97	0.80	0.084	A	A
5. A5153/Parc Cybi	**Parc Cybi**	36.42	2.43	0.166	A	A
5. A5153/Parc Cybi	**A5153 (W)**	5.14	0.34	0.076	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	6.82	0.45	0.060	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.25	0.35	0.066	A	A
4. Kingsland Road/A5153	**Access**	1.62	0.11	0.144	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.50	0.23	0.049	A	A
5. A5153/Parc Cybi	**A5153 (E)**	11.99	0.80	0.084	A	A
5. A5153/Parc Cybi	**Parc Cybi**	36.58	2.44	0.167	A	A
5. A5153/Parc Cybi	**A5153 (W)**	5.14	0.34	0.076	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788
4. Kingsland Road/A5153	Access	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	Stub	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	4. Kingsland Road/A5153	A5153	454.29	1463.76	0.310	0.00	0.00	0.45	6.56	(0.02)	0.059
1	4. Kingsland Road/A5153	Kingsland Road (S)	317.00	1222.40	0.259	0.00	0.00	0.35	5.10	(0.02)	0.066
1	4. Kingsland Road/A5153	Access	45.00	462.22	0.097	0.00	0.00	0.11	1.54	(0.02)	0.144
1	4. Kingsland Road/A5153	Kingsland Road (N)	288.00	1521.86	0.189	0.00	0.00	0.23	3.43	(0.02)	0.049
1	5. A5153/Parc	A5153 (E)	572.00	1285.96	0.445	0.00	0.00	0.79	11.49	(0.02)	0.083

	Cybi										
1	**5. A5153/Parc Cybi**	**Parc Cybi**	888.00	1248.84	0.711	0.00	0.00	2.37	32.71	(0.02)	0.158
1	**5. A5153/Parc Cybi**	**A5153 (W)**	270.83	1067.38	0.254	0.00	0.00	0.34	4.93	(0.02)	0.075
1	**5. A5153/Parc Cybi**	**Stub**	0.00	953.92	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**4. Kingsland Road/A5153**	**A5153**	457.95	1463.35	0.313	0.00	0.45	0.45	6.78	(0.02)	0.060
2	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	317.00	1220.88	0.260	0.00	0.35	0.35	5.23	(0.02)	0.066
2	**4. Kingsland Road/A5153**	**Access**	45.00	460.98	0.098	0.00	0.11	0.11	1.61	(0.02)	0.144
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	288.00	1521.29	0.189	0.00	0.23	0.23	3.49	(0.02)	0.049
2	**5. A5153/Parc Cybi**	**A5153 (E)**	572.00	1285.51	0.445	0.00	0.79	0.80	11.94	(0.02)	0.084
2	**5. A5153/Parc Cybi**	**Parc Cybi**	888.00	1248.09	0.711	0.00	2.37	2.42	36.01	(0.02)	0.166
2	**5. A5153/Parc Cybi**	**A5153 (W)**	272.00	1063.23	0.256	0.00	0.34	0.34	5.11	(0.02)	0.076
2	**5. A5153/Parc Cybi**	**Stub**	0.00	948.10	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	457.98	1463.35	0.313	0.00	0.45	0.45	6.81	(0.02)	0.060
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	317.00	1220.86	0.260	0.00	0.35	0.35	5.25	(0.02)	0.066
3	**4. Kingsland Road/A5153**	**Access**	45.00	460.97	0.098	0.00	0.11	0.11	1.62	(0.02)	0.144
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	288.00	1521.29	0.189	0.00	0.23	0.23	3.50	(0.02)	0.049
3	**5. A5153/Parc Cybi**	**A5153 (E)**	572.00	1285.51	0.445	0.00	0.80	0.80	11.97	(0.02)	0.084
3	**5. A5153/Parc Cybi**	**Parc Cybi**	888.00	1248.09	0.711	0.00	2.42	2.43	36.42	(0.02)	0.166
3	**5. A5153/Parc**	**A5153 (W)**	272.00	1063.18	0.256	0.00	0.34	0.34	5.14	(0.02)	0.076

	Cybi										
3	5. A5153/Parc Cybi	Stub	0.00	948.03	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	4. Kingsland Road/A5153	A5153	457.99	1463.35	0.313	0.00	0.45	0.45	6.82	(0.02)	0.060
4	4. Kingsland Road/A5153	Kingsland Road (S)	317.00	1220.86	0.260	0.00	0.35	0.35	5.25	(0.02)	0.066
4	4. Kingsland Road/A5153	Access	45.00	460.97	0.098	0.00	0.11	0.11	1.62	(0.02)	0.144
4	4. Kingsland Road/A5153	Kingsland Road (N)	288.00	1521.29	0.189	0.00	0.23	0.23	3.50	(0.02)	0.049
4	5. A5153/Parc Cybi	A5153 (E)	572.00	1285.51	0.445	0.00	0.80	0.80	11.99	(0.02)	0.084
4	5. A5153/Parc Cybi	Parc Cybi	888.00	1248.09	0.711	0.00	2.43	2.44	36.58	(0.02)	0.167
4	5. A5153/Parc Cybi	A5153 (W)	272.00	1063.17	0.256	0.00	0.34	0.34	5.14	(0.02)	0.076
4	5. A5153/Parc Cybi	Stub	0.00	948.02	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D9 - Base+Com 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type

		Name										
Base+Com 2032, Sat	Base+Com 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)

4. Kingsland Road/A5153	**A5153**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Access**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (E)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Parc Cybi**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (W)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Stub**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	**A5153**	None
4. Kingsland Road/A5153	**Kingsland Road (S)**	None
4. Kingsland Road/A5153	**Access**	None
4. Kingsland Road/A5153	**Kingsland Road (N)**	None
5. A5153/Parc Cybi	**A5153 (E)**	None
5. A5153/Parc Cybi	**Parc Cybi**	None
5. A5153/Parc Cybi	**A5153 (W)**	None
5. A5153/Parc Cybi	**Stub**	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	Stub		((calculated))	((calculated))	0.618	1524.323

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	A5153	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	Kingsland Road (S)	FLAT	Yes	239.00	100.000	1.00
4. Kingsland Road/A5153	Access	FLAT	Yes	36.00	100.000	1.00
4. Kingsland Road/A5153	Kingsland Road (N)	FLAT	Yes	256.00	100.000	1.00

5. A5153/Parc Cybi	**A5153 (E)**	FLAT	Yes	228.00	100.000	1.00
5. A5153/Parc Cybi	**Parc Cybi**	FLAT	Yes	11.00	100.000	1.00
5. A5153/Parc Cybi	**A5153 (W)**	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	**Stub**	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	**A5153**	2	3	Yes			16.00
5. A5153/Parc Cybi	**A5153 (W)**	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**4. Kingsland Road/A5153**	**A5153**	0.00	0.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	239.00	239.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Access**	36.00	36.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	256.00	256.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**A5153 (E)**	228.00	228.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**Parc Cybi**	11.00	11.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**A5153 (W)**	0.00	0.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**Stub**	0.00	0.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**A5153**	0.00	0.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	239.00	239.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Access**	36.00	36.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	256.00	256.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**A5153 (E)**	228.00	228.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**Parc Cybi**	11.00	11.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**A5153 (W)**	0.00	0.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**Stub**	0.00	0.00	N/A	N/A

3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	239.00	239.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	36.00	36.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	256.00	256.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	228.00	228.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	11.00	11.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	239.00	239.00	N/A	N/A
4	4. Kingsland Road/A5153	Access	36.00	36.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	256.00	256.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	228.00	228.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	11.00	11.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	149.000	21.000	59.000
	2	108.000	0.000	3.000	128.000
	3	12.000	2.000	0.000	22.000
	4	51.000	193.000	12.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.65	0.09	0.26

	2	0.45	0.00	0.01	0.54
	3	0.33	0.06	0.00	0.61
	4	0.20	0.75	0.05	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	9.000	219.000	0.000
	2	8.000	0.000	3.000	0.000
	3	163.000	2.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.04	0.96	0.00
	2	0.73	0.00	0.27	0.00
	3	0.99	0.01	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)

4. Kingsland Road/A5153	**A5153**	0.15	0.05	0.18	A	221.80	221.80	10.72	0.05	0.18	10.72	0.05	0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.18	0.06	0.22	A	239.00	239.00	13.28	0.06	0.22	13.28	0.06	0.572	1361.788
4. Kingsland Road/A5153	**Access**	0.07	0.12	0.07	A	36.00	36.00	4.31	0.12	0.07	4.31	0.12	0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.16	0.05	0.20	A	256.00	256.00	11.74	0.05	0.20	11.74	0.05	0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	0.17	0.05	0.21	A	228.00	228.00	12.29	0.05	0.20	12.29	0.05	0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	0.01	0.05	0.01	A	11.00	11.00	0.53	0.05	0.01	0.53	0.05	0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	0.12	0.05	0.13	A	170.84	170.84	7.93	0.05	0.13	7.93	0.05	0.600	1459.237
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.618	1524.323

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	221.20	55.30	220.49	170.35	206.36	0.00	1454.32	941.98	0.152	0.00	0.18
4. Kingsland Road/A5153	**Kingsland Road (S)**	239.00	59.75	238.11	337.85	88.99	0.00	1310.92	1139.77	0.182	0.00	0.22
4. Kingsland Road/A5153	**Access**	36.00	9.00	35.71	35.17	291.93	0.00	531.33	150.15	0.068	0.00	0.07
4. Kingsland Road/A5153	**Kingsland Road (N)**	256.00	64.00	255.22	206.15	121.49	0.00	1556.47	1264.80	0.164	0.00	0.20
5. A5153/Parc Cybi	**A5153 (E)**	228.00	57.00	227.18	175.73	2.06	0.00	1333.16	751.71	0.171	0.00	0.21
5. A5153/Parc Cybi	**Parc Cybi**	11.00	2.75	10.96	11.03	218.21	0.00	1255.08	488.31	0.009	0.00	0.01
5. A5153/Parc Cybi	**A5153 (W)**	170.35	42.59	169.82	221.20	7.97	0.00	1454.45	1188.88	0.117	0.00	0.13
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	177.79	0.00	1414.38	381.42	0.000	0.00	0.00

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	222.00	55.50	221.99	171.00	207.00	0.00	1453.92	941.98	0.153	0.18	0.18
4. Kingsland Road/A5153	**Kingsland Road (S)**	239.00	59.75	239.00	339.44	89.55	0.00	1310.59	1139.77	0.182	0.22	0.22
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.36	293.19	0.00	530.88	150.15	0.068	0.07	0.07
4. Kingsland Road/A5153	**Kingsland Road (N)**	256.00	64.00	256.00	207.19	122.00	0.00	1556.14	1264.80	0.165	0.20	0.20
5. A5153/Parc Cybi	**A5153 (E)**	228.00	57.00	228.00	176.92	2.07	0.00	1333.15	754.68	0.171	0.21	0.21

5. A5153/Parc Cybi	**Parc Cybi**	11.00	2.75	11.00	11.07	219.00	0.00	1254.61	489.23	0.009	0.01	0.01
5. A5153/Parc Cybi	**A5153 (W)**	171.00	42.75	171.00	222.00	8.00	0.00	1454.44	1190.35	0.118	0.13	0.13
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	179.00	0.00	1413.64	368.98	0.000	0.00	0.00

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	222.00	55.50	222.00	171.00	207.00	0.00	1453.92	941.98	0.153	0.18	0.18
4. Kingsland Road/A5153	**Kingsland Road (S)**	239.00	59.75	239.00	339.44	89.55	0.00	1310.59	1139.77	0.182	0.22	0.22
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.36	293.20	0.00	530.88	150.15	0.068	0.07	0.07
4. Kingsland Road/A5153	**Kingsland Road (N)**	256.00	64.00	256.00	207.20	122.00	0.00	1556.13	1264.80	0.165	0.20	0.20
5. A5153/Parc Cybi	**A5153 (E)**	228.00	57.00	228.00	176.93	2.07	0.00	1333.15	754.68	0.171	0.21	0.21
5. A5153/Parc Cybi	**Parc Cybi**	11.00	2.75	11.00	11.07	219.00	0.00	1254.61	489.23	0.009	0.01	0.01
5. A5153/Parc Cybi	**A5153 (W)**	171.00	42.75	171.00	222.00	8.00	0.00	1454.44	1190.35	0.118	0.13	0.13
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	179.00	0.00	1413.64	368.98	0.000	0.00	0.00

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	222.00	55.50	222.00	171.00	207.00	0.00	1453.92	941.98	0.153	0.18	0.18
4. Kingsland Road/A5153	**Kingsland Road (S)**	239.00	59.75	239.00	339.44	89.55	0.00	1310.59	1139.77	0.182	0.22	0.22
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.36	293.20	0.00	530.88	150.15	0.068	0.07	0.07
4. Kingsland Road/A5153	**Kingsland Road (N)**	256.00	64.00	256.00	207.20	122.00	0.00	1556.13	1264.80	0.165	0.20	0.20
5. A5153/Parc Cybi	**A5153 (E)**	228.00	57.00	228.00	176.93	2.07	0.00	1333.15	754.68	0.171	0.21	0.21
5. A5153/Parc Cybi	**Parc Cybi**	11.00	2.75	11.00	11.07	219.00	0.00	1254.61	489.23	0.009	0.01	0.01
5. A5153/Parc Cybi	**A5153 (W)**	171.00	42.75	171.00	222.00	8.00	0.00	1454.44	1190.35	0.118	0.13	0.13
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	179.00	0.00	1413.63	368.98	0.000	0.00	0.00

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	2.63	0.18	0.049	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	3.26	0.22	0.056	A	A
4. Kingsland Road/A5153	Access	1.05	0.07	0.121	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	2.89	0.19	0.046	A	A
5. A5153/Parc Cybi	A5153 (E)	3.02	0.20	0.054	A	A
5. A5153/Parc Cybi	Parc Cybi	0.13	0.01	0.048	A	A
5. A5153/Parc Cybi	A5153 (W)	1.95	0.13	0.047	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	2.69	0.18	0.049	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	3.33	0.22	0.056	A	A
4. Kingsland Road/A5153	Access	1.08	0.07	0.121	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	2.95	0.20	0.046	A	A
5. A5153/Parc Cybi	A5153 (E)	3.09	0.21	0.054	A	A
5. A5153/Parc Cybi	Parc Cybi	0.13	0.01	0.048	A	A
5. A5153/Parc Cybi	A5153 (W)	1.99	0.13	0.047	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	2.70	0.18	0.049	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	3.34	0.22	0.056	A	A
4. Kingsland Road/A5153	Access	1.09	0.07	0.121	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	2.95	0.20	0.046	A	A
5. A5153/Parc Cybi	A5153 (E)	3.09	0.21	0.054	A	A
5. A5153/Parc Cybi	Parc Cybi	0.13	0.01	0.048	A	A
5. A5153/Parc Cybi	A5153 (W)	1.99	0.13	0.047	A	A

5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.70	0.18	0.049	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.34	0.22	0.056	A	A
4. Kingsland Road/A5153	**Access**	1.09	0.07	0.121	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	2.95	0.20	0.046	A	A
5. A5153/Parc Cybi	**A5153 (E)**	3.09	0.21	0.054	A	A
5. A5153/Parc Cybi	**Parc Cybi**	0.13	0.01	0.048	A	A
5. A5153/Parc Cybi	**A5153 (W)**	2.00	0.13	0.047	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	4. Kingsland Road/A5153	A5153	221.20	1454.32	0.152	0.00	0.00	0.18	2.63	(0.02)	0.049
1	4. Kingsland Road/A5153	Kingsland Road (S)	239.00	1310.92	0.182	0.00	0.00	0.22	3.26	(0.02)	0.056
1	4. Kingsland Road/A5153	Access	36.00	531.33	0.068	0.00	0.00	0.07	1.05	(0.02)	0.121
1	4. Kingsland Road/A5153	Kingsland Road (N)	256.00	1556.47	0.164	0.00	0.00	0.20	2.89	(0.02)	0.046
1	5. A5153/Parc Cybi	A5153 (E)	228.00	1333.16	0.171	0.00	0.00	0.21	3.02	(0.02)	0.054
1	5. A5153/Parc Cybi	Parc Cybi	11.00	1255.08	0.009	0.00	0.00	0.01	0.13	(0.02)	0.048
1	5. A5153/Parc Cybi	A5153 (W)	170.35	1454.45	0.117	0.00	0.00	0.13	1.95	(0.02)	0.047
1	5. A5153/Parc Cybi	Stub	0.00	1414.38	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	4. Kingsland Road/A5153	A5153	222.00	1453.92	0.153	0.00	0.18	0.18	2.69	(0.02)	0.049
2	4. Kingsland Road/A5153	Kingsland Road (S)	239.00	1310.59	0.182	0.00	0.22	0.22	3.33	(0.02)	0.056
2	4. Kingsland Road/A5153	Access	36.00	530.88	0.068	0.00	0.07	0.07	1.08	(0.02)	0.121
2	4. Kingsland Road/A5153	Kingsland Road (N)	256.00	1556.14	0.165	0.00	0.20	0.20	2.95	(0.02)	0.046
2	5. A5153/Parc Cybi	A5153 (E)	228.00	1333.15	0.171	0.00	0.21	0.21	3.09	(0.02)	0.054
2	5. A5153/Parc Cybi	Parc Cybi	11.00	1254.61	0.009	0.00	0.01	0.01	0.13	(0.02)	0.048
2	5. A5153/Parc	A5153 (W)	171.00	1454.44	0.118	0.00	0.13	0.13	1.99	(0.02)	0.047

	Cybi										
2	**5. A5153/Parc Cybi**	**Stub**	0.00	1413.64	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	222.00	1453.92	0.153	0.00	0.18	0.18	2.70	(0.02)	0.049
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	239.00	1310.59	0.182	0.00	0.22	0.22	3.34	(0.02)	0.056
3	**4. Kingsland Road/A5153**	**Access**	36.00	530.88	0.068	0.00	0.07	0.07	1.09	(0.02)	0.121
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	256.00	1556.13	0.165	0.00	0.20	0.20	2.95	(0.02)	0.046
3	**5. A5153/Parc Cybi**	**A5153 (E)**	228.00	1333.15	0.171	0.00	0.21	0.21	3.09	(0.02)	0.054
3	**5. A5153/Parc Cybi**	**Parc Cybi**	11.00	1254.61	0.009	0.00	0.01	0.01	0.13	(0.02)	0.048
3	**5. A5153/Parc Cybi**	**A5153 (W)**	171.00	1454.44	0.118	0.00	0.13	0.13	1.99	(0.02)	0.047
3	**5. A5153/Parc Cybi**	**Stub**	0.00	1413.64	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**4. Kingsland Road/A5153**	**A5153**	222.00	1453.92	0.153	0.00	0.18	0.18	2.70	(0.02)	0.049
4	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	239.00	1310.59	0.182	0.00	0.22	0.22	3.34	(0.02)	0.056
4	**4. Kingsland Road/A5153**	**Access**	36.00	530.88	0.068	0.00	0.07	0.07	1.09	(0.02)	0.121
4	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	256.00	1556.13	0.165	0.00	0.20	0.20	2.95	(0.02)	0.046
4	**5. A5153/Parc Cybi**	**A5153 (E)**	228.00	1333.15	0.171	0.00	0.21	0.21	3.09	(0.02)	0.054
4	**5. A5153/Parc Cybi**	**Parc Cybi**	11.00	1254.61	0.009	0.00	0.01	0.01	0.13	(0.02)	0.048
4	**5. A5153/Parc Cybi**	**A5153 (W)**	171.00	1454.44	0.118	0.00	0.13	0.13	2.00	(0.02)	0.047
4	**5. A5153/Parc Cybi**	**Stub**	0.00	1413.63	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D13 - Base+Com+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, AM	Base+Com+Dev 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	**A5153**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Access**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (E)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Parc Cybi**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (W)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Stub**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	A5153	None
4. Kingsland Road/A5153	Kingsland Road (S)	None
4. Kingsland Road/A5153	Access	None
4. Kingsland Road/A5153	Kingsland Road (N)	None
5. A5153/Parc Cybi	A5153 (E)	None
5. A5153/Parc Cybi	Parc Cybi	None
5. A5153/Parc Cybi	A5153 (W)	None
5. A5153/Parc Cybi	Stub	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	Stub		((calculated))	((calculated))	0.618	1524.323

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	2.00				Yes	Yes

				Percentages						

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	A5153	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	Kingsland Road (S)	FLAT	Yes	477.00	100.000	1.00
4. Kingsland Road/A5153	Access	FLAT	Yes	19.00	100.000	1.00
4. Kingsland Road/A5153	Kingsland Road (N)	FLAT	Yes	258.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (E)	FLAT	Yes	801.00	100.000	1.00
5. A5153/Parc Cybi	Parc Cybi	FLAT	Yes	233.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (W)	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	Stub	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	A5153	2	3	Yes			16.00
5. A5153/Parc Cybi	A5153 (W)	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (S)	477.00	477.00	N/A	N/A
1	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (N)	258.00	258.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (E)	801.00	801.00	N/A	N/A

1	5. A5153/Parc Cybi	Parc Cybi	233.00	233.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
1	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (S)	477.00	477.00	N/A	N/A
2	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (N)	258.00	258.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (E)	801.00	801.00	N/A	N/A
2	5. A5153/Parc Cybi	Parc Cybi	233.00	233.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
2	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	477.00	477.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	258.00	258.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	801.00	801.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	233.00	233.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	477.00	477.00	N/A	N/A
4	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	258.00	258.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	801.00	801.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	233.00	233.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	143.000	3.000	73.000
	2	275.000	0.000	5.000	197.000
	3	7.000	7.000	0.000	5.000
	4	143.000	109.000	6.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.65	0.01	0.33
	2	0.58	0.00	0.01	0.41
	3	0.37	0.37	0.00	0.26
	4	0.55	0.42	0.02	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	623.000	178.000	0.000
	2	193.000	0.000	40.000	0.000
	3	231.000	192.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.78	0.22	0.00
	2	0.83	0.00	0.17	0.00
	3	0.55	0.45	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
From		1	2	3	4
	1	0.000	0.000	0.000	0.000

	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	0.14	0.05	0.17	A	217.54	217.54	10.05	0.05	0.17	10.05	0.05	0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.36	0.07	0.57	A	477.00	477.00	33.75	0.07	0.56	33.76	0.07	0.572	1361.788
4. Kingsland Road/A5153	**Access**	0.04	0.14	0.04	A	19.00	19.00	2.65	0.14	0.04	2.65	0.14	0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.18	0.05	0.22	A	258.00	258.00	12.91	0.05	0.22	12.91	0.05	0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	0.65	0.14	1.88	A	801.00	801.00	109.77	0.14	1.83	109.86	0.14	0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	0.18	0.06	0.22	A	233.00	233.00	13.26	0.06	0.22	13.26	0.06	0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	0.32	0.07	0.46	A	424.54	424.54	27.42	0.06	0.46	27.42	0.06	0.600	1459.237
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.618	1524.323

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	216.21	54.05	215.55	423.15	121.55	0.00	1507.65	1349.48	0.143	0.00	0.17
4. Kingsland Road/A5153	**Kingsland Road (S)**	477.00	119.25	474.74	256.32	80.78	0.00	1315.61	679.94	0.363	0.00	0.56
4. Kingsland Road/A5153	**Access**	19.00	4.75	18.82	13.91	541.61	0.00	442.90	106.60	0.043	0.00	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	258.00	64.50	257.14	272.87	287.57	0.00	1449.29	748.86	0.178	0.00	0.22
5. A5153/Parc Cybi	**A5153 (E)**	801.00	200.25	793.65	422.35	191.24	0.00	1225.43	936.00	0.654	0.00	1.84
5. A5153/Parc Cybi	**Parc Cybi**	233.00	58.25	232.11	808.52	176.37	0.00	1279.91	1133.66	0.182	0.00	0.22

5. A5153/Parc Cybi	**A5153 (W)**	423.15	105.79	421.33	216.21	192.27	0.00	1343.85	831.23	0.315	0.00	0.46
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	613.59	0.00	1144.90	429.64	0.000	0.00	0.00

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	217.98	54.49	217.97	424.99	122.00	0.00	1507.37	1355.04	0.145	0.17	0.17
4. Kingsland Road/A5153	**Kingsland Road (S)**	477.00	119.25	476.99	258.33	81.64	0.00	1315.12	701.23	0.363	0.56	0.57
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.99	544.65	0.00	441.82	120.89	0.043	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	258.00	64.50	258.00	274.65	288.99	0.00	1448.36	717.22	0.178	0.22	0.22
5. A5153/Parc Cybi	**A5153 (E)**	801.00	200.25	800.89	425.08	192.90	0.00	1224.49	936.00	0.654	1.84	1.87
5. A5153/Parc Cybi	**Parc Cybi**	233.00	58.25	233.00	815.81	177.98	0.00	1278.96	1133.66	0.182	0.22	0.22
5. A5153/Parc Cybi	**A5153 (W)**	424.99	106.25	424.98	217.98	193.00	0.00	1343.41	831.23	0.316	0.46	0.46
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	617.97	0.00	1142.19	429.64	0.000	0.00	0.00

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	217.99	54.50	217.99	425.00	122.00	0.00	1507.36	1355.04	0.145	0.17	0.17
4. Kingsland Road/A5153	**Kingsland Road (S)**	477.00	119.25	477.00	258.34	81.65	0.00	1315.11	701.22	0.363	0.57	0.57
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.99	544.66	0.00	441.82	120.89	0.043	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	258.00	64.50	258.00	274.66	289.00	0.00	1448.36	717.22	0.178	0.22	0.22
5. A5153/Parc Cybi	**A5153 (E)**	801.00	200.25	800.96	425.09	192.91	0.00	1224.48	936.00	0.654	1.87	1.87
5. A5153/Parc Cybi	**Parc Cybi**	233.00	58.25	233.00	815.88	177.99	0.00	1278.95	1133.66	0.182	0.22	0.22
5. A5153/Parc Cybi	**A5153 (W)**	425.00	106.25	424.99	217.99	193.00	0.00	1343.41	831.23	0.316	0.46	0.46
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	617.99	0.00	1142.17	429.64	0.000	0.00	0.00

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	218.00	54.50	218.00	425.00	122.00	0.00	1507.36	1355.04	0.145	0.17	0.17

4. Kingsland Road/A5153	**Kingsland Road (S)**	477.00	119.25	477.00	258.34	81.65	0.00	1315.11	701.22	0.363	0.57	0.57
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.99	544.66	0.00	441.82	120.89	0.043	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	258.00	64.50	258.00	274.66	289.00	0.00	1448.36	717.22	0.178	0.22	0.22
5. A5153/Parc Cybi	**A5153 (E)**	801.00	200.25	800.98	425.09	192.91	0.00	1224.48	936.00	0.654	1.87	1.88
5. A5153/Parc Cybi	**Parc Cybi**	233.00	58.25	233.00	815.89	178.00	0.00	1278.95	1133.66	0.182	0.22	0.22
5. A5153/Parc Cybi	**A5153 (W)**	425.00	106.25	425.00	218.00	193.00	0.00	1343.41	831.23	0.316	0.46	0.46
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	618.00	0.00	1142.17	429.64	0.000	0.00	0.00

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.46	0.16	0.046	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	8.23	0.55	0.071	A	A
4. Kingsland Road/A5153	**Access**	0.64	0.04	0.141	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.18	0.21	0.050	A	A
5. A5153/Parc Cybi	**A5153 (E)**	25.75	1.72	0.137	A	A
5. A5153/Parc Cybi	**Parc Cybi**	3.26	0.22	0.057	A	A
5. A5153/Parc Cybi	**A5153 (W)**	6.68	0.45	0.065	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.52	0.17	0.047	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	8.49	0.57	0.072	A	A
4. Kingsland Road/A5153	**Access**	0.67	0.04	0.142	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.24	0.22	0.050	A	A
5. A5153/Parc Cybi	**A5153 (E)**	27.82	1.85	0.142	A	A
5. A5153/Parc Cybi	**Parc Cybi**	3.33	0.22	0.057	A	A
5. A5153/Parc Cybi	**A5153 (W)**	6.89	0.46	0.065	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	2.53	0.17	0.047	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	8.51	0.57	0.072	A	A
4. Kingsland Road/A5153	Access	0.67	0.04	0.142	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.25	0.22	0.050	A	A
5. A5153/Parc Cybi	A5153 (E)	28.05	1.87	0.142	A	A
5. A5153/Parc Cybi	Parc Cybi	3.33	0.22	0.057	A	A
5. A5153/Parc Cybi	A5153 (W)	6.92	0.46	0.065	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	2.53	0.17	0.047	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	8.52	0.57	0.072	A	A
4. Kingsland Road/A5153	Access	0.67	0.04	0.142	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.25	0.22	0.050	A	A
5. A5153/Parc Cybi	A5153 (E)	28.15	1.88	0.142	A	A
5. A5153/Parc Cybi	Parc Cybi	3.34	0.22	0.057	A	A
5. A5153/Parc Cybi	A5153 (W)	6.93	0.46	0.065	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	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	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788

4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**4. Kingsland Road/A5153**	**A5153**	216.21	1507.65	0.143	0.00	0.00	0.17	2.46	(0.02)	0.046
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	477.00	1315.61	0.363	0.00	0.00	0.56	8.23	(0.02)	0.071
1	**4. Kingsland Road/A5153**	**Access**	19.00	442.90	0.043	0.00	0.00	0.04	0.64	(0.02)	0.141
1	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	258.00	1449.29	0.178	0.00	0.00	0.22	3.18	(0.02)	0.050
1	**5. A5153/Parc Cybi**	**A5153 (E)**	801.00	1225.43	0.654	0.00	0.00	1.84	25.75	(0.02)	0.137
1	**5. A5153/Parc Cybi**	**Parc Cybi**	233.00	1279.91	0.182	0.00	0.00	0.22	3.26	(0.02)	0.057
1	**5. A5153/Parc Cybi**	**A5153 (W)**	423.15	1343.85	0.315	0.00	0.00	0.46	6.68	(0.02)	0.065
1	**5. A5153/Parc Cybi**	**Stub**	0.00	1144.90	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**4. Kingsland Road/A5153**	**A5153**	217.98	1507.37	0.145	0.00	0.17	0.17	2.52	(0.02)	0.047
2	**4. Kingsland**	**Kingsland**	477.00	1315.12	0.363	0.00	0.56	0.57	8.49	(0.02)	0.072

	Road/A5153	**Road (S)**									
2	**4. Kingsland Road/A5153**	**Access**	19.00	441.82	0.043	0.00	0.04	0.04	0.67	(0.02)	0.142
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	258.00	1448.36	0.178	0.00	0.22	0.22	3.24	(0.02)	0.050
2	**5. A5153/Parc Cybi**	**A5153 (E)**	801.00	1224.49	0.654	0.00	1.84	1.87	27.82	(0.02)	0.142
2	**5. A5153/Parc Cybi**	**Parc Cybi**	233.00	1278.96	0.182	0.00	0.22	0.22	3.33	(0.02)	0.057
2	**5. A5153/Parc Cybi**	**A5153 (W)**	424.99	1343.41	0.316	0.00	0.46	0.46	6.89	(0.02)	0.065
2	**5. A5153/Parc Cybi**	**Stub**	0.00	1142.19	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	217.99	1507.36	0.145	0.00	0.17	0.17	2.53	(0.02)	0.047
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	477.00	1315.11	0.363	0.00	0.57	0.57	8.51	(0.02)	0.072
3	**4. Kingsland Road/A5153**	**Access**	19.00	441.82	0.043	0.00	0.04	0.04	0.67	(0.02)	0.142
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	258.00	1448.36	0.178	0.00	0.22	0.22	3.25	(0.02)	0.050
3	**5. A5153/Parc Cybi**	**A5153 (E)**	801.00	1224.48	0.654	0.00	1.87	1.87	28.05	(0.02)	0.142
3	**5. A5153/Parc Cybi**	**Parc Cybi**	233.00	1278.95	0.182	0.00	0.22	0.22	3.33	(0.02)	0.057
3	**5. A5153/Parc Cybi**	**A5153 (W)**	425.00	1343.41	0.316	0.00	0.46	0.46	6.92	(0.02)	0.065
3	**5. A5153/Parc Cybi**	**Stub**	0.00	1142.17	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**4. Kingsland Road/A5153**	**A5153**	218.00	1507.36	0.145	0.00	0.17	0.17	2.53	(0.02)	0.047
4	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	477.00	1315.11	0.363	0.00	0.57	0.57	8.52	(0.02)	0.072
4	**4. Kingsland Road/A5153**	**Access**	19.00	441.82	0.043	0.00	0.04	0.04	0.67	(0.02)	0.142
4	**4. Kingsland**	**Kingsland**	258.00	1448.36	0.178	0.00	0.22	0.22	3.25	(0.02)	0.050

	Road/A5153	Road (N)									
4	5. A5153/Parc Cybi	A5153 (E)	801.00	1224.48	0.654	0.00	1.87	1.88	28.15	(0.02)	0.142
4	5. A5153/Parc Cybi	Parc Cybi	233.00	1278.95	0.182	0.00	0.22	0.22	3.34	(0.02)	0.057
4	5. A5153/Parc Cybi	A5153 (W)	425.00	1343.41	0.316	0.00	0.46	0.46	6.93	(0.02)	0.065
4	5. A5153/Parc Cybi	Stub	0.00	1142.17	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D14 - Base+Com+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, PM	Base+Com+Dev 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay

1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	**A5153**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Access**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (E)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Parc Cybi**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (W)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Stub**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	A5153	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	Kingsland Road (S)	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	Access	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	Kingsland Road (N)	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	A5153 (E)	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	Parc Cybi	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	A5153 (W)	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	Stub	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	A5153	None
4. Kingsland Road/A5153	Kingsland Road (S)	None
4. Kingsland Road/A5153	Access	None
4. Kingsland Road/A5153	Kingsland Road (N)	None
5. A5153/Parc Cybi	A5153 (E)	None
5. A5153/Parc Cybi	Parc Cybi	None
5. A5153/Parc Cybi	A5153 (W)	None
5. A5153/Parc Cybi	Stub	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573

5. A5153/Parc Cybi	**A5153 (W)**		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	**Stub**		((calculated))	((calculated))	0.618	1524.323

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	**A5153**	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	FLAT	Yes	385.00	100.000	1.00
4. Kingsland Road/A5153	**Access**	FLAT	Yes	45.00	100.000	1.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	FLAT	Yes	319.00	100.000	1.00
5. A5153/Parc Cybi	**A5153 (E)**	FLAT	Yes	696.00	100.000	1.00
5. A5153/Parc Cybi	**Parc Cybi**	FLAT	Yes	919.00	100.000	1.00
5. A5153/Parc Cybi	**A5153 (W)**	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	**Stub**	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	**A5153**	2	3	Yes			16.00
5. A5153/Parc Cybi	**A5153 (W)**	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (S)	385.00	385.00	N/A	N/A
1	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (N)	319.00	319.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (E)	696.00	696.00	N/A	N/A
1	5. A5153/Parc Cybi	Parc Cybi	919.00	919.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
1	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (S)	385.00	385.00	N/A	N/A
2	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (N)	319.00	319.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (E)	696.00	696.00	N/A	N/A
2	5. A5153/Parc Cybi	Parc Cybi	919.00	919.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
2	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	385.00	385.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	319.00	319.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	696.00	696.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	919.00	919.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	385.00	385.00	N/A	N/A

4	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	319.00	319.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	696.00	696.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	919.00	919.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	320.000	36.000	182.000
	2	201.000	0.000	8.000	176.000
	3	19.000	5.000	0.000	21.000
	4	101.000	189.000	29.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.59	0.07	0.34
	2	0.52	0.00	0.02	0.46
	3	0.42	0.11	0.00	0.47
	4	0.32	0.59	0.09	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	387.000	309.000	0.000
	2	691.000	0.000	228.000	0.000
	3	238.000	87.000	0.000	0.000

	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.56	0.44	0.00
	2	0.75	0.00	0.25	0.00
	3	0.73	0.27	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

	To

		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153	0.37	0.07	0.59	A	535.68	535.68	34.95	0.07	0.58	34.95	0.07	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)	0.32	0.07	0.46	A	385.00	385.00	27.31	0.07	0.46	27.32	0.07	0.572	1361.788
4. Kingsland Road/A5153	Access	0.10	0.15	0.11	A	45.00	45.00	6.77	0.15	0.11	6.77	0.15	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)	0.21	0.05	0.27	A	319.00	319.00	16.23	0.05	0.27	16.23	0.05	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)	0.54	0.10	1.18	A	696.00	696.00	69.43	0.10	1.16	69.46	0.10	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi	0.77	0.21	3.21	B	919.00	919.00	183.79	0.20	3.06	184.05	0.20	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)	0.31	0.08	0.44	A	320.63	320.63	26.16	0.08	0.44	26.17	0.08	0.600	1459.237
5. A5153/Parc Cybi	Stub	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.618	1524.323

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	531.89	132.97	529.58	319.51	222.21	0.00	1444.35	1069.79	0.368	0.00	0.58
4. Kingsland Road/A5153	**Kingsland Road (S)**	385.00	96.25	383.17	508.30	243.49	0.00	1222.59	991.85	0.315	0.00	0.46
4. Kingsland Road/A5153	**Access**	45.00	11.25	44.55	72.30	554.36	0.00	438.38	149.21	0.103	0.00	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	319.00	79.75	317.92	375.10	223.81	0.00	1490.43	1172.58	0.214	0.00	0.27
5. A5153/Parc Cybi	**A5153 (E)**	696.00	174.00	691.35	914.49	85.07	0.00	1285.89	983.63	0.541	0.00	1.16
5. A5153/Parc Cybi	**Parc Cybi**	919.00	229.75	906.73	469.48	306.93	0.00	1202.43	981.70	0.764	0.00	3.07
5. A5153/Parc Cybi	**A5153 (W)**	319.51	79.88	317.78	531.89	681.78	0.00	1050.08	943.58	0.304	0.00	0.43
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	999.55	0.00	906.23	484.40	0.000	0.00	0.00

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	536.89	134.22	536.85	320.99	223.00	0.00	1443.86	1083.89	0.372	0.58	0.59
4. Kingsland Road/A5153	**Kingsland Road (S)**	385.00	96.25	384.99	513.31	246.53	0.00	1220.85	1007.37	0.315	0.46	0.46
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	72.92	558.60	0.00	436.88	155.42	0.103	0.11	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	319.00	79.75	319.00	378.61	224.99	0.00	1489.67	1138.73	0.214	0.27	0.27
5. A5153/Parc Cybi	**A5153 (E)**	696.00	174.00	695.96	925.76	85.92	0.00	1285.41	983.63	0.541	1.16	1.17
5. A5153/Parc Cybi	**Parc Cybi**	919.00	229.75	918.63	472.90	308.98	0.00	1201.21	981.70	0.765	3.07	3.16
5. A5153/Parc Cybi	**A5153 (W)**	320.99	80.25	320.96	536.89	690.72	0.00	1044.72	943.58	0.307	0.43	0.44
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	1011.68	0.00	898.73	484.40	0.000	0.00	0.00

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	536.96	134.24	536.96	321.00	223.00	0.00	1443.86	1083.89	0.372	0.59	0.59
4. Kingsland Road/A5153	**Kingsland Road (S)**	385.00	96.25	385.00	513.38	246.58	0.00	1220.83	1007.36	0.315	0.46	0.46
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	72.93	558.64	0.00	436.87	155.42	0.103	0.11	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	319.00	79.75	319.00	378.65	225.00	0.00	1489.66	1138.74	0.214	0.27	0.27

5. A5153/Parc Cybi	**A5153 (E)**	696.00	174.00	695.99	925.97	85.93	0.00	1285.40	983.63	0.541	1.17	1.17
5. A5153/Parc Cybi	**Parc Cybi**	919.00	229.75	918.87	472.92	308.99	0.00	1201.21	981.70	0.765	3.16	3.19
5. A5153/Parc Cybi	**A5153 (W)**	321.00	80.25	320.99	536.96	690.90	0.00	1044.61	943.58	0.307	0.44	0.44
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	1011.90	0.00	898.60	484.40	0.000	0.00	0.00

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	536.98	134.25	536.98	321.00	223.00	0.00	1443.86	1083.89	0.372	0.59	0.59
4. Kingsland Road/A5153	**Kingsland Road (S)**	385.00	96.25	385.00	513.39	246.59	0.00	1220.82	1007.36	0.315	0.46	0.46
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	72.93	558.65	0.00	436.86	155.42	0.103	0.11	0.11
4. Kingsland Road/A5153	**Kingsland Road (N)**	319.00	79.75	319.00	378.65	225.00	0.00	1489.66	1138.74	0.214	0.27	0.27
5. A5153/Parc Cybi	**A5153 (E)**	696.00	174.00	695.99	926.02	85.93	0.00	1285.40	983.63	0.541	1.17	1.18
5. A5153/Parc Cybi	**Parc Cybi**	919.00	229.75	918.94	472.93	309.00	0.00	1201.21	981.70	0.765	3.19	3.21
5. A5153/Parc Cybi	**A5153 (W)**	321.00	80.25	321.00	536.98	690.95	0.00	1044.58	943.58	0.307	0.44	0.44
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	1011.95	0.00	898.56	484.40	0.000	0.00	0.00

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	8.45	0.56	0.065	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	6.66	0.44	0.071	A	A
4. Kingsland Road/A5153	**Access**	1.63	0.11	0.152	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.99	0.27	0.051	A	A
5. A5153/Parc Cybi	**A5153 (E)**	16.66	1.11	0.100	A	A
5. A5153/Parc Cybi	**Parc Cybi**	41.26	2.75	0.196	B	B
5. A5153/Parc Cybi	**A5153 (W)**	6.32	0.42	0.082	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	8.79	0.59	0.066	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	6.87	0.46	0.072	A	A
4. Kingsland Road/A5153	Access	1.71	0.11	0.153	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	4.07	0.27	0.051	A	A
5. A5153/Parc Cybi	A5153 (E)	17.53	1.17	0.102	A	A
5. A5153/Parc Cybi	Parc Cybi	46.85	3.12	0.212	B	B
5. A5153/Parc Cybi	A5153 (W)	6.58	0.44	0.083	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	8.85	0.59	0.066	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	6.89	0.46	0.072	A	A
4. Kingsland Road/A5153	Access	1.71	0.11	0.153	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	4.08	0.27	0.051	A	A
5. A5153/Parc Cybi	A5153 (E)	17.61	1.17	0.102	A	A
5. A5153/Parc Cybi	Parc Cybi	47.67	3.18	0.212	B	B
5. A5153/Parc Cybi	A5153 (W)	6.62	0.44	0.083	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	8.86	0.59	0.066	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	6.89	0.46	0.072	A	A
4. Kingsland Road/A5153	Access	1.72	0.11	0.153	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	4.08	0.27	0.051	A	A
5. A5153/Parc Cybi	A5153 (E)	17.64	1.18	0.102	A	A
5. A5153/Parc Cybi	Parc Cybi	48.01	3.20	0.212	B	B
5. A5153/Parc Cybi	A5153 (W)	6.64	0.44	0.083	A	A

5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**4. Kingsland Road/A5153**	**A5153**	531.89	1444.35	0.368	0.00	0.00	0.58	8.45	(0.02)	0.065
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	385.00	1222.59	0.315	0.00	0.00	0.46	6.66	(0.02)	0.071
1	**4. Kingsland Road/A5153**	**Access**	45.00	438.38	0.103	0.00	0.00	0.11	1.63	(0.02)	0.152
1	**4. Kingsland**	**Kingsland**	319.00	1490.43	0.214	0.00	0.00	0.27	3.99	(0.02)	0.051

	Road/A5153	**Road (N)**									
1	**5. A5153/Parc Cybi**	**A5153 (E)**	696.00	1285.89	0.541	0.00	0.00	1.16	16.66	(0.02)	0.100
1	**5. A5153/Parc Cybi**	**Parc Cybi**	919.00	1202.43	0.764	0.00	0.00	3.07	41.26	(0.02)	0.196
1	**5. A5153/Parc Cybi**	**A5153 (W)**	319.51	1050.08	0.304	0.00	0.00	0.43	6.32	(0.02)	0.082
1	**5. A5153/Parc Cybi**	**Stub**	0.00	906.23	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**4. Kingsland Road/A5153**	**A5153**	536.89	1443.86	0.372	0.00	0.58	0.59	8.79	(0.02)	0.066
2	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	385.00	1220.85	0.315	0.00	0.46	0.46	6.87	(0.02)	0.072
2	**4. Kingsland Road/A5153**	**Access**	45.00	436.88	0.103	0.00	0.11	0.11	1.71	(0.02)	0.153
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	319.00	1489.67	0.214	0.00	0.27	0.27	4.07	(0.02)	0.051
2	**5. A5153/Parc Cybi**	**A5153 (E)**	696.00	1285.41	0.541	0.00	1.16	1.17	17.53	(0.02)	0.102
2	**5. A5153/Parc Cybi**	**Parc Cybi**	919.00	1201.21	0.765	0.00	3.07	3.16	46.85	(0.02)	0.212
2	**5. A5153/Parc Cybi**	**A5153 (W)**	320.99	1044.72	0.307	0.00	0.43	0.44	6.58	(0.02)	0.083
2	**5. A5153/Parc Cybi**	**Stub**	0.00	898.73	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	536.96	1443.86	0.372	0.00	0.59	0.59	8.85	(0.02)	0.066
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	385.00	1220.83	0.315	0.00	0.46	0.46	6.89	(0.02)	0.072
3	**4. Kingsland Road/A5153**	**Access**	45.00	436.87	0.103	0.00	0.11	0.11	1.71	(0.02)	0.153
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	319.00	1489.66	0.214	0.00	0.27	0.27	4.08	(0.02)	0.051
3	**5. A5153/Parc Cybi**	**A5153 (E)**	696.00	1285.40	0.541	0.00	1.17	1.17	17.61	(0.02)	0.102
3	**5. A5153/Parc**	**Parc Cybi**	919.00	1201.21	0.765	0.00	3.16	3.19	47.67	(0.02)	0.212

	Cybi										
3	5. A5153/Parc Cybi	A5153 (W)	321.00	1044.61	0.307	0.00	0.44	0.44	6.62	(0.02)	0.083
3	5. A5153/Parc Cybi	Stub	0.00	898.60	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	4. Kingsland Road/A5153	A5153	536.98	1443.86	0.372	0.00	0.59	0.59	8.86	(0.02)	0.066
4	4. Kingsland Road/A5153	Kingsland Road (S)	385.00	1220.82	0.315	0.00	0.46	0.46	6.89	(0.02)	0.072
4	4. Kingsland Road/A5153	Access	45.00	436.86	0.103	0.00	0.11	0.11	1.72	(0.02)	0.153
4	4. Kingsland Road/A5153	Kingsland Road (N)	319.00	1489.66	0.214	0.00	0.27	0.27	4.08	(0.02)	0.051
4	5. A5153/Parc Cybi	A5153 (E)	696.00	1285.40	0.541	0.00	1.17	1.18	17.64	(0.02)	0.102
4	5. A5153/Parc Cybi	Parc Cybi	919.00	1201.21	0.765	0.00	3.19	3.21	48.01	(0.02)	0.212
4	5. A5153/Parc Cybi	A5153 (W)	321.00	1044.58	0.307	0.00	0.44	0.44	6.64	(0.02)	0.083
4	5. A5153/Parc Cybi	Stub	0.00	898.56	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D15 - Base+Com+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Com+Dev 2032, Sat	Base+Com+Dev 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	A5153	0.00	99999.00		0.00
4. Kingsland Road/A5153	Kingsland Road (S)	0.00	99999.00		0.00
4. Kingsland Road/A5153	Access	0.00	99999.00		0.00
4. Kingsland Road/A5153	Kingsland Road (N)	0.00	99999.00		0.00
5. A5153/Parc Cybi	A5153 (E)	0.00	99999.00		0.00
5. A5153/Parc Cybi	Parc Cybi	0.00	99999.00		0.00
5. A5153/Parc Cybi	A5153 (W)	0.00	99999.00		0.00
5. A5153/Parc Cybi	Stub	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	A5153	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	Kingsland Road (S)	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	Access	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	Kingsland Road (N)	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	A5153 (E)	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	Parc Cybi	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	A5153 (W)	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	Stub	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	A5153	None
4. Kingsland Road/A5153	Kingsland Road (S)	None
4. Kingsland Road/A5153	Access	None
4. Kingsland Road/A5153	Kingsland Road (N)	None
5. A5153/Parc Cybi	A5153 (E)	None
5. A5153/Parc Cybi	Parc Cybi	None
5. A5153/Parc Cybi	A5153 (W)	None
5. A5153/Parc Cybi	Stub	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	Stub		((calculated))	((calculated))	0.618	1524.323

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	A5153	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	Kingsland Road (S)	FLAT	Yes	313.00	100.000	1.00
4. Kingsland Road/A5153	Access	FLAT	Yes	36.00	100.000	1.00
4. Kingsland Road/A5153	Kingsland Road (N)	FLAT	Yes	280.00	100.000	1.00

5. A5153/Parc Cybi	**A5153 (E)**	FLAT	Yes	322.00	100.000	1.00
5. A5153/Parc Cybi	**Parc Cybi**	FLAT	Yes	35.00	100.000	1.00
5. A5153/Parc Cybi	**A5153 (W)**	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	**Stub**	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	**A5153**	2	3	Yes			16.00
5. A5153/Parc Cybi	**A5153 (W)**	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**4. Kingsland Road/A5153**	**A5153**	0.00	0.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	313.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Access**	36.00	36.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	280.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	322.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	35.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**A5153 (W)**	0.00	0.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**Stub**	0.00	0.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**A5153**	0.00	0.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	313.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Access**	36.00	36.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	280.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	322.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	35.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**A5153 (W)**	0.00	0.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**Stub**	0.00	0.00	N/A	N/A

3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	313.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	36.00	36.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	280.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	322.00	322.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	35.00	35.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	313.00	N/A	N/A
4	4. Kingsland Road/A5153	Access	36.00	36.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	280.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	322.00	322.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	35.00	35.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	209.000	21.000	59.000
	2	161.000	0.000	3.000	149.000
	3	12.000	2.000	0.000	22.000
	4	51.000	217.000	12.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.72	0.07	0.20

	2	0.51	0.00	0.01	0.48
	3	0.33	0.06	0.00	0.61
	4	0.18	0.78	0.04	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	43.000	279.000	0.000
	2	32.000	0.000	3.000	0.000
	3	215.000	2.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.13	0.87	0.00
	2	0.91	0.00	0.09	0.00
	3	0.99	0.01	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)

4. Kingsland Road/A5153	**A5153**	0.20	0.05	0.24	A	281.72	281.72	14.49	0.05	0.24	14.49	0.05	0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.24	0.06	0.31	A	313.00	313.00	18.67	0.06	0.31	18.67	0.06	0.572	1361.788
4. Kingsland Road/A5153	**Access**	0.07	0.13	0.08	A	36.00	36.00	4.54	0.13	0.08	4.54	0.13	0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.18	0.05	0.23	A	280.00	280.00	13.43	0.05	0.22	13.43	0.05	0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	0.24	0.06	0.32	A	322.00	322.00	18.94	0.06	0.32	18.95	0.06	0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	0.03	0.05	0.03	A	35.00	35.00	1.76	0.05	0.03	1.76	0.05	0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	0.16	0.05	0.18	A	223.77	223.77	10.96	0.05	0.18	10.96	0.05	0.600	1459.237
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.618	1524.323

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	280.89	70.22	279.93	223.09	230.25	0.00	1439.30	959.09	0.195	0.00	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	311.75	420.73	89.45	0.00	1310.65	1180.49	0.239	0.00	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	35.70	35.29	365.91	0.00	505.13	151.28	0.071	0.00	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	279.10	227.37	174.24	0.00	1522.42	1205.03	0.184	0.00	0.22
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	320.73	252.21	2.05	0.00	1333.16	932.69	0.242	0.00	0.32
5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	34.88	44.88	277.90	0.00	1219.66	597.60	0.029	0.00	0.03
5. A5153/Parc Cybi	**A5153 (W)**	223.09	55.77	222.36	280.89	31.89	0.00	1440.10	1066.94	0.155	0.00	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	254.25	0.00	1367.10	429.25	0.000	0.00	0.00

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	282.00	70.50	281.99	224.00	231.00	0.00	1438.83	959.09	0.196	0.24	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	313.00	422.93	90.06	0.00	1310.30	1180.49	0.239	0.31	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.49	367.57	0.00	504.54	151.28	0.071	0.08	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	280.00	228.57	175.00	0.00	1521.93	1205.03	0.184	0.22	0.22
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	322.00	253.93	2.06	0.00	1333.16	939.82	0.242	0.32	0.32

5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	35.00	45.06	279.00	0.00	1219.01	589.04	0.029	0.03	0.03
5. A5153/Parc Cybi	**A5153 (W)**	224.00	56.00	223.99	282.00	32.00	0.00	1440.03	1074.90	0.156	0.18	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	255.99	0.00	1366.02	407.46	0.000	0.00	0.00

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	282.00	70.50	282.00	224.00	231.00	0.00	1438.83	959.09	0.196	0.24	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	313.00	422.94	90.06	0.00	1310.30	1180.49	0.239	0.31	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.49	367.57	0.00	504.54	151.28	0.071	0.08	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	280.00	228.57	175.00	0.00	1521.93	1205.03	0.184	0.22	0.23
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	322.00	253.93	2.06	0.00	1333.16	939.82	0.242	0.32	0.32
5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	35.00	45.06	279.00	0.00	1219.01	589.04	0.029	0.03	0.03
5. A5153/Parc Cybi	**A5153 (W)**	224.00	56.00	224.00	282.00	32.00	0.00	1440.03	1074.90	0.156	0.18	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	256.00	0.00	1366.02	407.46	0.000	0.00	0.00

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	282.00	70.50	282.00	224.00	231.00	0.00	1438.83	959.09	0.196	0.24	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	313.00	422.94	90.06	0.00	1310.30	1180.49	0.239	0.31	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.49	367.57	0.00	504.54	151.28	0.071	0.08	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	280.00	228.57	175.00	0.00	1521.93	1205.03	0.184	0.23	0.23
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	322.00	253.93	2.06	0.00	1333.16	939.82	0.242	0.32	0.32
5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	35.00	45.06	279.00	0.00	1219.01	589.04	0.029	0.03	0.03
5. A5153/Parc Cybi	**A5153 (W)**	224.00	56.00	224.00	282.00	32.00	0.00	1440.03	1074.90	0.156	0.18	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	256.00	0.00	1366.02	407.46	0.000	0.00	0.00

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	3.55	0.24	0.052	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	4.58	0.31	0.060	A	A
4. Kingsland Road/A5153	Access	1.10	0.07	0.128	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.31	0.22	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	4.65	0.31	0.059	A	A
5. A5153/Parc Cybi	Parc Cybi	0.43	0.03	0.051	A	A
5. A5153/Parc Cybi	A5153 (W)	2.69	0.18	0.049	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	3.64	0.24	0.052	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	4.69	0.31	0.060	A	A
4. Kingsland Road/A5153	Access	1.14	0.08	0.128	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.37	0.22	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	4.76	0.32	0.059	A	A
5. A5153/Parc Cybi	Parc Cybi	0.44	0.03	0.051	A	A
5. A5153/Parc Cybi	A5153 (W)	2.75	0.18	0.049	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	3.65	0.24	0.052	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	4.70	0.31	0.060	A	A
4. Kingsland Road/A5153	Access	1.15	0.08	0.128	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.38	0.23	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	4.77	0.32	0.059	A	A
5. A5153/Parc Cybi	Parc Cybi	0.44	0.03	0.051	A	A
5. A5153/Parc Cybi	A5153 (W)	2.76	0.18	0.049	A	A

5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	3.65	0.24	0.052	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	4.70	0.31	0.060	A	A
4. Kingsland Road/A5153	**Access**	1.15	0.08	0.128	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.38	0.23	0.048	A	A
5. A5153/Parc Cybi	**A5153 (E)**	4.77	0.32	0.059	A	A
5. A5153/Parc Cybi	**Parc Cybi**	0.44	0.03	0.051	A	A
5. A5153/Parc Cybi	**A5153 (W)**	2.76	0.18	0.049	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	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	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	4. Kingsland Road/A5153	A5153	280.89	1439.30	0.195	0.00	0.00	0.24	3.55	(0.02)	0.052
1	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	1310.65	0.239	0.00	0.00	0.31	4.58	(0.02)	0.060
1	4. Kingsland Road/A5153	Access	36.00	505.13	0.071	0.00	0.00	0.08	1.10	(0.02)	0.128
1	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	1522.42	0.184	0.00	0.00	0.22	3.31	(0.02)	0.048
1	5. A5153/Parc Cybi	A5153 (E)	322.00	1333.16	0.242	0.00	0.00	0.32	4.65	(0.02)	0.059
1	5. A5153/Parc Cybi	Parc Cybi	35.00	1219.66	0.029	0.00	0.00	0.03	0.43	(0.02)	0.051
1	5. A5153/Parc Cybi	A5153 (W)	223.09	1440.10	0.155	0.00	0.00	0.18	2.69	(0.02)	0.049
1	5. A5153/Parc Cybi	Stub	0.00	1367.10	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	4. Kingsland Road/A5153	A5153	282.00	1438.83	0.196	0.00	0.24	0.24	3.64	(0.02)	0.052
2	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	1310.30	0.239	0.00	0.31	0.31	4.69	(0.02)	0.060
2	4. Kingsland Road/A5153	Access	36.00	504.54	0.071	0.00	0.08	0.08	1.14	(0.02)	0.128
2	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	1521.93	0.184	0.00	0.22	0.22	3.37	(0.02)	0.048
2	5. A5153/Parc Cybi	A5153 (E)	322.00	1333.16	0.242	0.00	0.32	0.32	4.76	(0.02)	0.059
2	5. A5153/Parc Cybi	Parc Cybi	35.00	1219.01	0.029	0.00	0.03	0.03	0.44	(0.02)	0.051
2	5. A5153/Parc	A5153 (W)	224.00	1440.03	0.156	0.00	0.18	0.18	2.75	(0.02)	0.049

	Cybi										
2	**5. A5153/Parc Cybi**	**Stub**	0.00	1366.02	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	282.00	1438.83	0.196	0.00	0.24	0.24	3.65	(0.02)	0.052
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	1310.30	0.239	0.00	0.31	0.31	4.70	(0.02)	0.060
3	**4. Kingsland Road/A5153**	**Access**	36.00	504.54	0.071	0.00	0.08	0.08	1.15	(0.02)	0.128
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	1521.93	0.184	0.00	0.22	0.23	3.38	(0.02)	0.048
3	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	1333.16	0.242	0.00	0.32	0.32	4.77	(0.02)	0.059
3	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	1219.01	0.029	0.00	0.03	0.03	0.44	(0.02)	0.051
3	**5. A5153/Parc Cybi**	**A5153 (W)**	224.00	1440.03	0.156	0.00	0.18	0.18	2.76	(0.02)	0.049
3	**5. A5153/Parc Cybi**	**Stub**	0.00	1366.02	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**4. Kingsland Road/A5153**	**A5153**	282.00	1438.83	0.196	0.00	0.24	0.24	3.65	(0.02)	0.052
4	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	1310.30	0.239	0.00	0.31	0.31	4.70	(0.02)	0.060
4	**4. Kingsland Road/A5153**	**Access**	36.00	504.54	0.071	0.00	0.08	0.08	1.15	(0.02)	0.128
4	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	1521.93	0.184	0.00	0.23	0.23	3.38	(0.02)	0.048
4	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	1333.16	0.242	0.00	0.32	0.32	4.77	(0.02)	0.059
4	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	1219.01	0.029	0.00	0.03	0.03	0.44	(0.02)	0.051
4	**5. A5153/Parc Cybi**	**A5153 (W)**	224.00	1440.03	0.156	0.00	0.18	0.18	2.76	(0.02)	0.049
4	**5. A5153/Parc Cybi**	**Stub**	0.00	1366.02	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D16 - Base+Dev 2032, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, AM	Base+Dev 2032	AM			Yes			08:30	09:30	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	**A5153**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Access**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (E)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Parc Cybi**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (W)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Stub**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	A5153	None
4. Kingsland Road/A5153	Kingsland Road (S)	None
4. Kingsland Road/A5153	Access	None
4. Kingsland Road/A5153	Kingsland Road (N)	None
5. A5153/Parc Cybi	A5153 (E)	None
5. A5153/Parc Cybi	Parc Cybi	None
5. A5153/Parc Cybi	A5153 (W)	None
5. A5153/Parc Cybi	Stub	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	Stub		((calculated))	((calculated))	0.618	1524.323

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	2.00				Yes	Yes

				Percentages						

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	A5153	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	Kingsland Road (S)	FLAT	Yes	381.00	100.000	1.00
4. Kingsland Road/A5153	Access	FLAT	Yes	19.00	100.000	1.00
4. Kingsland Road/A5153	Kingsland Road (N)	FLAT	Yes	162.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (E)	FLAT	Yes	227.00	100.000	1.00
5. A5153/Parc Cybi	Parc Cybi	FLAT	Yes	57.00	100.000	1.00
5. A5153/Parc Cybi	A5153 (W)	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	Stub	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	A5153	2	3	Yes			16.00
5. A5153/Parc Cybi	A5153 (W)	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (S)	381.00	381.00	N/A	N/A
1	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (N)	162.00	162.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (E)	227.00	227.00	N/A	N/A

1	5. A5153/Parc Cybi	Parc Cybi	57.00	57.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
1	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (S)	381.00	381.00	N/A	N/A
2	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (N)	162.00	162.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (E)	227.00	227.00	N/A	N/A
2	5. A5153/Parc Cybi	Parc Cybi	57.00	57.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
2	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	381.00	381.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	162.00	162.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	227.00	227.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	57.00	57.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	381.00	381.00	N/A	N/A
4	4. Kingsland Road/A5153	Access	19.00	19.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	162.00	162.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	227.00	227.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	57.00	57.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	126.000	3.000	55.000
	2	179.000	0.000	5.000	197.000
	3	7.000	7.000	0.000	5.000
	4	47.000	109.000	6.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.68	0.02	0.30
	2	0.47	0.00	0.01	0.52
	3	0.37	0.37	0.00	0.26
	4	0.29	0.67	0.04	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	49.000	178.000	0.000
	2	52.000	0.000	5.000	0.000
	3	231.000	1.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.22	0.78	0.00
	2	0.91	0.00	0.09	0.00
	3	1.00	0.00	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
From		1	2	3	4
	1	0.000	0.000	0.000	0.000

	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	0.12	0.05	0.14	A	182.84	182.84	8.23	0.05	0.14	8.23	0.05	0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.29	0.06	0.40	A	381.00	381.00	23.97	0.06	0.40	23.98	0.06	0.572	1361.788
4. Kingsland Road/A5153	**Access**	0.04	0.13	0.04	A	19.00	19.00	2.43	0.13	0.04	2.43	0.13	0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.11	0.04	0.12	A	162.00	162.00	7.17	0.04	0.12	7.17	0.04	0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	0.17	0.05	0.20	A	227.00	227.00	12.22	0.05	0.20	12.22	0.05	0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	0.04	0.05	0.05	A	57.00	57.00	2.78	0.05	0.05	2.78	0.05	0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	0.16	0.05	0.19	A	232.76	232.76	11.60	0.05	0.19	11.60	0.05	0.600	1459.237
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.618	1524.323

Main Results

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	182.34	45.59	181.79	232.05	121.60	0.00	1507.62	1008.12	0.121	0.00	0.14
4. Kingsland Road/A5153	**Kingsland Road (S)**	381.00	95.25	379.40	240.11	63.29	0.00	1325.61	1154.17	0.287	0.00	0.40
4. Kingsland Road/A5153	**Access**	19.00	4.75	18.84	13.93	428.76	0.00	482.87	124.58	0.039	0.00	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	162.00	40.50	161.52	255.47	192.13	0.00	1510.88	1225.69	0.107	0.00	0.12
5. A5153/Parc Cybi	**A5153 (E)**	227.00	56.75	226.18	282.11	1.00	0.00	1333.76	1061.92	0.170	0.00	0.20
5. A5153/Parc Cybi	**Parc Cybi**	57.00	14.25	56.81	49.82	177.36	0.00	1279.32	697.17	0.045	0.00	0.05

5. A5153/Parc Cybi	**A5153 (W)**	232.05	58.01	231.27	182.34	51.83	0.00	1428.13	1006.15	0.162	0.00	0.19
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	283.11	0.00	1349.26	475.85	0.000	0.00	0.00

Main results: (08:45-09:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	183.00	45.75	183.00	233.00	122.00	0.00	1507.37	1008.12	0.121	0.14	0.14
4. Kingsland Road/A5153	**Kingsland Road (S)**	381.00	95.25	380.99	241.31	63.68	0.00	1325.38	1154.17	0.287	0.40	0.40
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.98	430.69	0.00	482.18	124.58	0.039	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	162.00	40.50	162.00	256.70	193.00	0.00	1510.32	1225.69	0.107	0.12	0.12
5. A5153/Parc Cybi	**A5153 (E)**	227.00	56.75	227.00	283.99	1.00	0.00	1333.76	1061.74	0.170	0.20	0.20
5. A5153/Parc Cybi	**Parc Cybi**	57.00	14.25	57.00	50.00	178.00	0.00	1278.94	711.49	0.045	0.05	0.05
5. A5153/Parc Cybi	**A5153 (W)**	233.00	58.25	232.99	183.00	52.00	0.00	1428.03	998.98	0.163	0.19	0.19
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	284.99	0.00	1348.09	471.39	0.000	0.00	0.00

Main results: (09:00-09:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	183.00	45.75	183.00	233.00	122.00	0.00	1507.36	1008.12	0.121	0.14	0.14
4. Kingsland Road/A5153	**Kingsland Road (S)**	381.00	95.25	381.00	241.31	63.68	0.00	1325.38	1154.17	0.287	0.40	0.40
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.98	430.70	0.00	482.18	124.58	0.039	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	162.00	40.50	162.00	256.70	193.00	0.00	1510.32	1225.69	0.107	0.12	0.12
5. A5153/Parc Cybi	**A5153 (E)**	227.00	56.75	227.00	283.99	1.00	0.00	1333.76	1061.74	0.170	0.20	0.20
5. A5153/Parc Cybi	**Parc Cybi**	57.00	14.25	57.00	50.00	178.00	0.00	1278.94	711.49	0.045	0.05	0.05
5. A5153/Parc Cybi	**A5153 (W)**	233.00	58.25	233.00	183.00	52.00	0.00	1428.03	998.98	0.163	0.19	0.19
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	285.00	0.00	1348.09	471.39	0.000	0.00	0.00

Main results: (09:15-09:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	183.00	45.75	183.00	233.00	122.00	0.00	1507.36	1008.12	0.121	0.14	0.14

4. Kingsland Road/A5153	**Kingsland Road (S)**	381.00	95.25	381.00	241.31	63.68	0.00	1325.38	1154.17	0.287	0.40	0.40
4. Kingsland Road/A5153	**Access**	19.00	4.75	19.00	13.98	430.70	0.00	482.18	124.58	0.039	0.04	0.04
4. Kingsland Road/A5153	**Kingsland Road (N)**	162.00	40.50	162.00	256.70	193.00	0.00	1510.31	1225.69	0.107	0.12	0.12
5. A5153/Parc Cybi	**A5153 (E)**	227.00	56.75	227.00	283.99	1.00	0.00	1333.76	1061.74	0.170	0.20	0.20
5. A5153/Parc Cybi	**Parc Cybi**	57.00	14.25	57.00	50.00	178.00	0.00	1278.94	711.49	0.045	0.05	0.05
5. A5153/Parc Cybi	**A5153 (W)**	233.00	58.25	233.00	183.00	52.00	0.00	1428.03	998.98	0.163	0.19	0.19
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	285.00	0.00	1348.09	471.39	0.000	0.00	0.00

Queueing Delay Results

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.02	0.13	0.045	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.87	0.39	0.063	A	A
4. Kingsland Road/A5153	**Access**	0.59	0.04	0.129	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	1.77	0.12	0.044	A	A
5. A5153/Parc Cybi	**A5153 (E)**	3.00	0.20	0.054	A	A
5. A5153/Parc Cybi	**Parc Cybi**	0.69	0.05	0.049	A	A
5. A5153/Parc Cybi	**A5153 (W)**	2.85	0.19	0.050	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (08:45-09:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	2.06	0.14	0.045	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	6.03	0.40	0.064	A	A
4. Kingsland Road/A5153	**Access**	0.61	0.04	0.130	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	1.80	0.12	0.044	A	A
5. A5153/Parc Cybi	**A5153 (E)**	3.07	0.20	0.054	A	A
5. A5153/Parc Cybi	**Parc Cybi**	0.70	0.05	0.049	A	A
5. A5153/Parc Cybi	**A5153 (W)**	2.91	0.19	0.050	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (09:00-09:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	2.07	0.14	0.045	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	6.04	0.40	0.064	A	A
4. Kingsland Road/A5153	Access	0.61	0.04	0.130	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	1.80	0.12	0.044	A	A
5. A5153/Parc Cybi	A5153 (E)	3.07	0.20	0.054	A	A
5. A5153/Parc Cybi	Parc Cybi	0.70	0.05	0.049	A	A
5. A5153/Parc Cybi	A5153 (W)	2.92	0.19	0.050	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (09:15-09:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	2.07	0.14	0.045	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	6.04	0.40	0.064	A	A
4. Kingsland Road/A5153	Access	0.61	0.04	0.130	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	1.80	0.12	0.044	A	A
5. A5153/Parc Cybi	A5153 (E)	3.07	0.20	0.054	A	A
5. A5153/Parc Cybi	Parc Cybi	0.70	0.05	0.049	A	A
5. A5153/Parc Cybi	A5153 (W)	2.92	0.19	0.050	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788

4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**4. Kingsland Road/A5153**	**A5153**	182.34	1507.62	0.121	0.00	0.00	0.14	2.02	(0.02)	0.045
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	381.00	1325.61	0.287	0.00	0.00	0.40	5.87	(0.02)	0.063
1	**4. Kingsland Road/A5153**	**Access**	19.00	482.87	0.039	0.00	0.00	0.04	0.59	(0.02)	0.129
1	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	162.00	1510.88	0.107	0.00	0.00	0.12	1.77	(0.02)	0.044
1	**5. A5153/Parc Cybi**	**A5153 (E)**	227.00	1333.76	0.170	0.00	0.00	0.20	3.00	(0.02)	0.054
1	**5. A5153/Parc Cybi**	**Parc Cybi**	57.00	1279.32	0.045	0.00	0.00	0.05	0.69	(0.02)	0.049
1	**5. A5153/Parc Cybi**	**A5153 (W)**	232.05	1428.13	0.162	0.00	0.00	0.19	2.85	(0.02)	0.050
1	**5. A5153/Parc Cybi**	**Stub**	0.00	1349.26	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**4. Kingsland Road/A5153**	**A5153**	183.00	1507.37	0.121	0.00	0.14	0.14	2.06	(0.02)	0.045
2	**4. Kingsland**	**Kingsland**	381.00	1325.38	0.287	0.00	0.40	0.40	6.03	(0.02)	0.064

	Road/A5153	**Road (S)**									
2	**4. Kingsland Road/A5153**	**Access**	19.00	482.18	0.039	0.00	0.04	0.04	0.61	(0.02)	0.130
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	162.00	1510.32	0.107	0.00	0.12	0.12	1.80	(0.02)	0.044
2	**5. A5153/Parc Cybi**	**A5153 (E)**	227.00	1333.76	0.170	0.00	0.20	0.20	3.07	(0.02)	0.054
2	**5. A5153/Parc Cybi**	**Parc Cybi**	57.00	1278.94	0.045	0.00	0.05	0.05	0.70	(0.02)	0.049
2	**5. A5153/Parc Cybi**	**A5153 (W)**	233.00	1428.03	0.163	0.00	0.19	0.19	2.91	(0.02)	0.050
2	**5. A5153/Parc Cybi**	**Stub**	0.00	1348.09	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	183.00	1507.36	0.121	0.00	0.14	0.14	2.07	(0.02)	0.045
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	381.00	1325.38	0.287	0.00	0.40	0.40	6.04	(0.02)	0.064
3	**4. Kingsland Road/A5153**	**Access**	19.00	482.18	0.039	0.00	0.04	0.04	0.61	(0.02)	0.130
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	162.00	1510.32	0.107	0.00	0.12	0.12	1.80	(0.02)	0.044
3	**5. A5153/Parc Cybi**	**A5153 (E)**	227.00	1333.76	0.170	0.00	0.20	0.20	3.07	(0.02)	0.054
3	**5. A5153/Parc Cybi**	**Parc Cybi**	57.00	1278.94	0.045	0.00	0.05	0.05	0.70	(0.02)	0.049
3	**5. A5153/Parc Cybi**	**A5153 (W)**	233.00	1428.03	0.163	0.00	0.19	0.19	2.92	(0.02)	0.050
3	**5. A5153/Parc Cybi**	**Stub**	0.00	1348.09	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**4. Kingsland Road/A5153**	**A5153**	183.00	1507.36	0.121	0.00	0.14	0.14	2.07	(0.02)	0.045
4	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	381.00	1325.38	0.287	0.00	0.40	0.40	6.04	(0.02)	0.064
4	**4. Kingsland Road/A5153**	**Access**	19.00	482.18	0.039	0.00	0.04	0.04	0.61	(0.02)	0.130
4	**4. Kingsland**	**Kingsland**	162.00	1510.31	0.107	0.00	0.12	0.12	1.80	(0.02)	0.044

	Road/A5153	Road (N)									
4	5. A5153/Parc Cybi	A5153 (E)	227.00	1333.76	0.170	0.00	0.20	0.20	3.07	(0.02)	0.054
4	5. A5153/Parc Cybi	Parc Cybi	57.00	1278.94	0.045	0.00	0.05	0.05	0.70	(0.02)	0.049
4	5. A5153/Parc Cybi	A5153 (W)	233.00	1428.03	0.163	0.00	0.19	0.19	2.92	(0.02)	0.050
4	5. A5153/Parc Cybi	Stub	0.00	1348.09	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D17 - Base+Dev 2032, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, PM	Base+Dev 2032	PM			Yes			15:45	16:45	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay

1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	**A5153**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Access**	0.00	99999.00		0.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (E)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Parc Cybi**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**A5153 (W)**	0.00	99999.00		0.00
5. A5153/Parc Cybi	**Stub**	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	A5153	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	Kingsland Road (S)	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	Access	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	Kingsland Road (N)	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	A5153 (E)	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	Parc Cybi	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	A5153 (W)	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	Stub	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	A5153	None
4. Kingsland Road/A5153	Kingsland Road (S)	None
4. Kingsland Road/A5153	Access	None
4. Kingsland Road/A5153	Kingsland Road (N)	None
5. A5153/Parc Cybi	A5153 (E)	None
5. A5153/Parc Cybi	Parc Cybi	None
5. A5153/Parc Cybi	A5153 (W)	None
5. A5153/Parc Cybi	Stub	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573

5. A5153/Parc Cybi	**A5153 (W)**		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	**Stub**		((calculated))	((calculated))	0.618	1524.323

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	**A5153**	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	**Kingsland Road (S)**	FLAT	Yes	344.00	100.000	1.00
4. Kingsland Road/A5153	**Access**	FLAT	Yes	45.00	100.000	1.00
4. Kingsland Road/A5153	**Kingsland Road (N)**	FLAT	Yes	278.00	100.000	1.00
5. A5153/Parc Cybi	**A5153 (E)**	FLAT	Yes	373.00	100.000	1.00
5. A5153/Parc Cybi	**Parc Cybi**	FLAT	Yes	58.00	100.000	1.00
5. A5153/Parc Cybi	**A5153 (W)**	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	**Stub**	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	**A5153**	2	3	Yes			16.00
5. A5153/Parc Cybi	**A5153 (W)**	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (S)	344.00	344.00	N/A	N/A
1	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
1	4. Kingsland Road/A5153	Kingsland Road (N)	278.00	278.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (E)	373.00	373.00	N/A	N/A
1	5. A5153/Parc Cybi	Parc Cybi	58.00	58.00	N/A	N/A
1	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
1	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (S)	344.00	344.00	N/A	N/A
2	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
2	4. Kingsland Road/A5153	Kingsland Road (N)	278.00	278.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (E)	373.00	373.00	N/A	N/A
2	5. A5153/Parc Cybi	Parc Cybi	58.00	58.00	N/A	N/A
2	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
2	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	344.00	344.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	278.00	278.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	373.00	373.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	58.00	58.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	344.00	344.00	N/A	N/A

4	4. Kingsland Road/A5153	Access	45.00	45.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	278.00	278.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	373.00	373.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	58.00	58.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	212.000	36.000	74.000
	2	160.000	0.000	8.000	176.000
	3	19.000	5.000	0.000	21.000
	4	60.000	189.000	29.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.66	0.11	0.23
	2	0.47	0.00	0.02	0.51
	3	0.42	0.11	0.00	0.47
	4	0.22	0.68	0.10	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	64.000	309.000	0.000
	2	45.000	0.000	13.000	0.000
	3	238.000	6.000	0.000	0.000

	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.17	0.83	0.00
	2	0.78	0.00	0.22	0.00
	3	0.98	0.02	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

	To

		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153	0.22	0.05	0.29	A	321.67	321.67	17.05	0.05	0.28	17.05	0.05	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)	0.27	0.06	0.37	A	344.00	344.00	21.79	0.06	0.36	21.79	0.06	0.572	1361.788
4. Kingsland Road/A5153	Access	0.09	0.13	0.10	A	45.00	45.00	5.98	0.13	0.10	5.98	0.13	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)	0.18	0.05	0.22	A	278.00	278.00	13.38	0.05	0.22	13.38	0.05	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)	0.28	0.06	0.39	A	373.00	373.00	23.14	0.06	0.39	23.15	0.06	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi	0.05	0.05	0.05	A	58.00	58.00	3.02	0.05	0.05	3.02	0.05	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)	0.17	0.05	0.20	A	238.74	238.74	11.91	0.05	0.20	11.91	0.05	0.600	1459.237
5. A5153/Parc Cybi	Stub	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	166666666.65	0.618	1524.323

Main Results

Main results: (15:45-16:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	320.67	80.17	319.54	237.96	222.25	0.00	1444.33	958.40	0.222	0.00	0.28
4. Kingsland Road/A5153	**Kingsland Road (S)**	344.00	86.00	342.54	403.73	138.06	0.00	1282.86	1100.44	0.268	0.00	0.36
4. Kingsland Road/A5153	**Access**	45.00	11.25	44.60	72.60	408.01	0.00	490.22	176.03	0.092	0.00	0.10
4. Kingsland Road/A5153	**Kingsland Road (N)**	278.00	69.50	277.11	269.50	183.11	0.00	1516.70	1243.97	0.183	0.00	0.22
5. A5153/Parc Cybi	**A5153 (E)**	373.00	93.25	371.45	276.18	5.83	0.00	1331.01	878.58	0.280	0.00	0.39
5. A5153/Parc Cybi	**Parc Cybi**	58.00	14.50	57.80	69.57	307.72	0.00	1201.96	589.03	0.048	0.00	0.05
5. A5153/Parc Cybi	**A5153 (W)**	237.96	59.49	237.17	320.67	44.84	0.00	1432.33	1121.26	0.166	0.00	0.20
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	282.01	0.00	1349.94	424.69	0.000	0.00	0.00

Main results: (16:00-16:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	322.00	80.50	321.99	239.00	223.00	0.00	1443.86	958.40	0.223	0.28	0.29
4. Kingsland Road/A5153	**Kingsland Road (S)**	344.00	86.00	344.00	405.99	139.00	0.00	1282.33	1100.44	0.268	0.36	0.37
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	73.00	409.99	0.00	489.51	176.03	0.092	0.10	0.10
4. Kingsland Road/A5153	**Kingsland Road (N)**	278.00	69.50	278.00	270.99	184.00	0.00	1516.12	1243.97	0.183	0.22	0.22
5. A5153/Parc Cybi	**A5153 (E)**	373.00	93.25	373.00	278.11	5.88	0.00	1330.98	891.95	0.280	0.39	0.39
5. A5153/Parc Cybi	**Parc Cybi**	58.00	14.50	58.00	69.88	309.00	0.00	1201.21	572.40	0.048	0.05	0.05
5. A5153/Parc Cybi	**A5153 (W)**	239.00	59.75	238.99	322.00	45.00	0.00	1432.23	1133.41	0.167	0.20	0.20
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	283.99	0.00	1348.71	395.29	0.000	0.00	0.00

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	322.00	80.50	322.00	239.00	223.00	0.00	1443.86	958.40	0.223	0.29	0.29
4. Kingsland Road/A5153	**Kingsland Road (S)**	344.00	86.00	344.00	406.00	139.00	0.00	1282.33	1100.44	0.268	0.37	0.37
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	73.00	410.00	0.00	489.51	176.03	0.092	0.10	0.10
4. Kingsland Road/A5153	**Kingsland Road (N)**	278.00	69.50	278.00	271.00	184.00	0.00	1516.12	1243.97	0.183	0.22	0.22

5. A5153/Parc Cybi	**A5153 (E)**	373.00	93.25	373.00	278.12	5.88	0.00	1330.98	891.95	0.280	0.39	0.39
5. A5153/Parc Cybi	**Parc Cybi**	58.00	14.50	58.00	69.88	309.00	0.00	1201.20	572.40	0.048	0.05	0.05
5. A5153/Parc Cybi	**A5153 (W)**	239.00	59.75	239.00	322.00	45.00	0.00	1432.23	1133.41	0.167	0.20	0.20
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	284.00	0.00	1348.71	395.29	0.000	0.00	0.00

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

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	322.00	80.50	322.00	239.00	223.00	0.00	1443.86	958.40	0.223	0.29	0.29
4. Kingsland Road/A5153	**Kingsland Road (S)**	344.00	86.00	344.00	406.00	139.00	0.00	1282.33	1100.44	0.268	0.37	0.37
4. Kingsland Road/A5153	**Access**	45.00	11.25	45.00	73.00	410.00	0.00	489.51	176.03	0.092	0.10	0.10
4. Kingsland Road/A5153	**Kingsland Road (N)**	278.00	69.50	278.00	271.00	184.00	0.00	1516.12	1243.97	0.183	0.22	0.22
5. A5153/Parc Cybi	**A5153 (E)**	373.00	93.25	373.00	278.12	5.88	0.00	1330.98	891.95	0.280	0.39	0.39
5. A5153/Parc Cybi	**Parc Cybi**	58.00	14.50	58.00	69.88	309.00	0.00	1201.20	572.40	0.048	0.05	0.05
5. A5153/Parc Cybi	**A5153 (W)**	239.00	59.75	239.00	322.00	45.00	0.00	1432.23	1133.41	0.167	0.20	0.20
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	284.00	0.00	1348.71	395.29	0.000	0.00	0.00

Queueing Delay Results

Queueing Delay results: (15:45-16:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	4.18	0.28	0.053	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	5.34	0.36	0.064	A	A
4. Kingsland Road/A5153	**Access**	1.45	0.10	0.135	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.29	0.22	0.048	A	A
5. A5153/Parc Cybi	**A5153 (E)**	5.67	0.38	0.062	A	A
5. A5153/Parc Cybi	**Parc Cybi**	0.74	0.05	0.052	A	A
5. A5153/Parc Cybi	**A5153 (W)**	2.92	0.19	0.050	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (16:00-16:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	4.28	0.29	0.053	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	5.48	0.37	0.064	A	A
4. Kingsland Road/A5153	Access	1.51	0.10	0.135	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.36	0.22	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	5.82	0.39	0.063	A	A
5. A5153/Parc Cybi	Parc Cybi	0.76	0.05	0.052	A	A
5. A5153/Parc Cybi	A5153 (W)	2.99	0.20	0.050	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	4.29	0.29	0.053	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	5.49	0.37	0.064	A	A
4. Kingsland Road/A5153	Access	1.51	0.10	0.135	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.36	0.22	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	5.83	0.39	0.063	A	A
5. A5153/Parc Cybi	Parc Cybi	0.76	0.05	0.052	A	A
5. A5153/Parc Cybi	A5153 (W)	3.00	0.20	0.050	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

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

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	4.30	0.29	0.053	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	5.49	0.37	0.064	A	A
4. Kingsland Road/A5153	Access	1.51	0.10	0.135	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.36	0.22	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	5.83	0.39	0.063	A	A
5. A5153/Parc Cybi	Parc Cybi	0.76	0.05	0.052	A	A
5. A5153/Parc Cybi	A5153 (W)	3.00	0.20	0.050	A	A

5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	**4. Kingsland Road/A5153**	**A5153**	320.67	1444.33	0.222	0.00	0.00	0.28	4.18	(0.02)	0.053
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	344.00	1282.86	0.268	0.00	0.00	0.36	5.34	(0.02)	0.064
1	**4. Kingsland Road/A5153**	**Access**	45.00	490.22	0.092	0.00	0.00	0.10	1.45	(0.02)	0.135
1	**4. Kingsland**	**Kingsland**	278.00	1516.70	0.183	0.00	0.00	0.22	3.29	(0.02)	0.048

	Road/A5153	**Road (N)**									
1	**5. A5153/Parc Cybi**	**A5153 (E)**	373.00	1331.01	0.280	0.00	0.00	0.39	5.67	(0.02)	0.062
1	**5. A5153/Parc Cybi**	**Parc Cybi**	58.00	1201.96	0.048	0.00	0.00	0.05	0.74	(0.02)	0.052
1	**5. A5153/Parc Cybi**	**A5153 (W)**	237.96	1432.33	0.166	0.00	0.00	0.20	2.92	(0.02)	0.050
1	**5. A5153/Parc Cybi**	**Stub**	0.00	1349.94	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	**4. Kingsland Road/A5153**	**A5153**	322.00	1443.86	0.223	0.00	0.28	0.29	4.28	(0.02)	0.053
2	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	344.00	1282.33	0.268	0.00	0.36	0.37	5.48	(0.02)	0.064
2	**4. Kingsland Road/A5153**	**Access**	45.00	489.51	0.092	0.00	0.10	0.10	1.51	(0.02)	0.135
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	278.00	1516.12	0.183	0.00	0.22	0.22	3.36	(0.02)	0.048
2	**5. A5153/Parc Cybi**	**A5153 (E)**	373.00	1330.98	0.280	0.00	0.39	0.39	5.82	(0.02)	0.063
2	**5. A5153/Parc Cybi**	**Parc Cybi**	58.00	1201.21	0.048	0.00	0.05	0.05	0.76	(0.02)	0.052
2	**5. A5153/Parc Cybi**	**A5153 (W)**	239.00	1432.23	0.167	0.00	0.20	0.20	2.99	(0.02)	0.050
2	**5. A5153/Parc Cybi**	**Stub**	0.00	1348.71	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	322.00	1443.86	0.223	0.00	0.29	0.29	4.29	(0.02)	0.053
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	344.00	1282.33	0.268	0.00	0.37	0.37	5.49	(0.02)	0.064
3	**4. Kingsland Road/A5153**	**Access**	45.00	489.51	0.092	0.00	0.10	0.10	1.51	(0.02)	0.135
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	278.00	1516.12	0.183	0.00	0.22	0.22	3.36	(0.02)	0.048
3	**5. A5153/Parc Cybi**	**A5153 (E)**	373.00	1330.98	0.280	0.00	0.39	0.39	5.83	(0.02)	0.063
3	**5. A5153/Parc**	**Parc Cybi**	58.00	1201.20	0.048	0.00	0.05	0.05	0.76	(0.02)	0.052

	Cybi										
3	5. A5153/Parc Cybi	A5153 (W)	239.00	1432.23	0.167	0.00	0.20	0.20	3.00	(0.02)	0.050
3	5. A5153/Parc Cybi	Stub	0.00	1348.71	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	4. Kingsland Road/A5153	A5153	322.00	1443.86	0.223	0.00	0.29	0.29	4.30	(0.02)	0.053
4	4. Kingsland Road/A5153	Kingsland Road (S)	344.00	1282.33	0.268	0.00	0.37	0.37	5.49	(0.02)	0.064
4	4. Kingsland Road/A5153	Access	45.00	489.51	0.092	0.00	0.10	0.10	1.51	(0.02)	0.135
4	4. Kingsland Road/A5153	Kingsland Road (N)	278.00	1516.12	0.183	0.00	0.22	0.22	3.36	(0.02)	0.048
4	5. A5153/Parc Cybi	A5153 (E)	373.00	1330.98	0.280	0.00	0.39	0.39	5.83	(0.02)	0.063
4	5. A5153/Parc Cybi	Parc Cybi	58.00	1201.20	0.048	0.00	0.05	0.05	0.76	(0.02)	0.052
4	5. A5153/Parc Cybi	A5153 (W)	239.00	1432.23	0.167	0.00	0.20	0.20	3.00	(0.02)	0.050
4	5. A5153/Parc Cybi	Stub	0.00	1348.71	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

A1 - (Default Analysis Set) - D18 - Base+Dev 2032, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Description	Include In Report	Use Specific Demand Set	Demand Set	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)		Yes		(D1)		100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Locked	Run Automatically	Use Relationship	Relationship	Start Time (HH:mm)	Finish Time (HH:mm)	Time Period Length (min)	Time Segment Length (min)	Traffic Profile Type
Base+Dev 2032, Sat	Base+Dev 2032	Sat			Yes			12:15	13:15	60	15	Varies by Arm

Roundabout Network

Roundabout Type(s)

Roundabout	ID	Name	Arm Order	Roundabout Type	Grade Separated	Large Roundabout	Do Geometric Delay
1	1	4. Kingsland Road/A5153	1,2,3,4	Standard			
2	2	5. A5153/Parc Cybi	1,2,3,4	Standard			

Roundabout Network Options

Driving Side	Lighting	Road Surface	In London
Left	Normal/unknown	((Mini-roundabouts only))	

Arms

Arms

ID	Name	Description
1	A5153	
2	Kingsland Road (S)	
3	Access	
4	Kingsland Road (N)	
1	A5153 (E)	
2	Parc Cybi	
3	A5153 (W)	
4	Stub	

Capacity Options

Roundabout	Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
4. Kingsland Road/A5153	A5153	0.00	99999.00		0.00
4. Kingsland Road/A5153	Kingsland Road (S)	0.00	99999.00		0.00
4. Kingsland Road/A5153	Access	0.00	99999.00		0.00
4. Kingsland Road/A5153	Kingsland Road (N)	0.00	99999.00		0.00
5. A5153/Parc Cybi	A5153 (E)	0.00	99999.00		0.00
5. A5153/Parc Cybi	Parc Cybi	0.00	99999.00		0.00
5. A5153/Parc Cybi	A5153 (W)	0.00	99999.00		0.00
5. A5153/Parc Cybi	Stub	0.00	99999.00		0.00

Standard Geometry

Roundabout	Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
4. Kingsland Road/A5153	A5153	3.90	6.00	8.00	21.00	40.50	20.00	
4. Kingsland Road/A5153	Kingsland Road (S)	3.65	6.50	4.00	18.00	40.50	30.00	
4. Kingsland Road/A5153	Access	2.50	3.00	2.00	3.00	40.50	21.00	
4. Kingsland Road/A5153	Kingsland Road (N)	3.80	6.50	8.00	25.00	40.50	16.00	
5. A5153/Parc Cybi	A5153 (E)	3.50	5.60	5.00	17.00	40.00	27.00	
5. A5153/Parc Cybi	Parc Cybi	3.75	5.50	3.00	25.00	40.00	19.00	
5. A5153/Parc Cybi	A5153 (W)	3.75	5.75	6.00	20.00	40.00	24.00	
5. A5153/Parc Cybi	Stub	4.40	5.25	3.00	20.00	40.00	19.00	

Pedestrian Crossings

Roundabout	Arm	Crossing Type
4. Kingsland Road/A5153	A5153	None
4. Kingsland Road/A5153	Kingsland Road (S)	None
4. Kingsland Road/A5153	Access	None
4. Kingsland Road/A5153	Kingsland Road (N)	None
5. A5153/Parc Cybi	A5153 (E)	None
5. A5153/Parc Cybi	Parc Cybi	None
5. A5153/Parc Cybi	A5153 (W)	None
5. A5153/Parc Cybi	Stub	None

Arm Slope/ Intercept and Capacity

Slope and Intercept used in model

Roundabout	Arm	Enter Directly	Slope	Intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	A5153		((calculated))	((calculated))	0.629	1584.077
4. Kingsland Road/A5153	Kingsland Road (S)		((calculated))	((calculated))	0.572	1361.788
4. Kingsland Road/A5153	Access		((calculated))	((calculated))	0.354	634.726
4. Kingsland Road/A5153	Kingsland Road (N)		((calculated))	((calculated))	0.645	1634.867
5. A5153/Parc Cybi	A5153 (E)		((calculated))	((calculated))	0.569	1334.331
5. A5153/Parc Cybi	Parc Cybi		((calculated))	((calculated))	0.593	1384.573
5. A5153/Parc Cybi	A5153 (W)		((calculated))	((calculated))	0.600	1459.237
5. A5153/Parc Cybi	Stub		((calculated))	((calculated))	0.618	1524.323

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				Yes	Yes

Entry Flows

General Flows Data

Roundabout	Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)	PHF
4. Kingsland Road/A5153	A5153	Linked Arm			N/A	0.00
4. Kingsland Road/A5153	Kingsland Road (S)	FLAT	Yes	313.00	100.000	1.00
4. Kingsland Road/A5153	Access	FLAT	Yes	36.00	100.000	1.00
4. Kingsland Road/A5153	Kingsland Road (N)	FLAT	Yes	280.00	100.000	1.00

5. A5153/Parc Cybi	**A5153 (E)**	FLAT	Yes	322.00	100.000	1.00
5. A5153/Parc Cybi	**Parc Cybi**	FLAT	Yes	35.00	100.000	1.00
5. A5153/Parc Cybi	**A5153 (W)**	Linked Arm			N/A	0.00
5. A5153/Parc Cybi	**Stub**	FLAT	Yes	0.00	100.000	0.00

Linked Arm Data

Roundabout	Arm	From Roundabout ID	From Arm ID	Limit Queue To Storage	Limit Capacity To Downstream	Ignore Random Queue	Internal Storage Space (PCU)
4. Kingsland Road/A5153	**A5153**	2	3	Yes			16.00
5. A5153/Parc Cybi	**A5153 (W)**	1	1	Yes			16.00

Direct/Resultant Flows

Direct Flows Data

Time Segment	Roundabout	Arm	Direct Demand Entry Flow (PCU/hr)	DirectDemandEntryFlowInPCU (PCU/hr)	Direct Demand Exit Flow (PCU/hr)	Direct Demand Pedestrian Flow (Ped/hr)
1	**4. Kingsland Road/A5153**	**A5153**	0.00	0.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	313.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Access**	36.00	36.00	N/A	N/A
1	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	280.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	322.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	35.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**A5153 (W)**	0.00	0.00	N/A	N/A
1	**5. A5153/Parc Cybi**	**Stub**	0.00	0.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**A5153**	0.00	0.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	313.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Access**	36.00	36.00	N/A	N/A
2	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	280.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	322.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	35.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**A5153 (W)**	0.00	0.00	N/A	N/A
2	**5. A5153/Parc Cybi**	**Stub**	0.00	0.00	N/A	N/A

3	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	313.00	N/A	N/A
3	4. Kingsland Road/A5153	Access	36.00	36.00	N/A	N/A
3	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	280.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (E)	322.00	322.00	N/A	N/A
3	5. A5153/Parc Cybi	Parc Cybi	35.00	35.00	N/A	N/A
3	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
3	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	A5153	0.00	0.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	313.00	N/A	N/A
4	4. Kingsland Road/A5153	Access	36.00	36.00	N/A	N/A
4	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	280.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (E)	322.00	322.00	N/A	N/A
4	5. A5153/Parc Cybi	Parc Cybi	35.00	35.00	N/A	N/A
4	5. A5153/Parc Cybi	A5153 (W)	0.00	0.00	N/A	N/A
4	5. A5153/Parc Cybi	Stub	0.00	0.00	N/A	N/A

Turning Proportions

Turning Counts or Proportions (PCU/hr) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	209.000	21.000	59.000
	2	161.000	0.000	3.000	149.000
	3	12.000	2.000	0.000	22.000
	4	51.000	217.000	12.000	0.000

Turning Proportions (PCU) - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.72	0.07	0.20

	2	0.51	0.00	0.01	0.48
	3	0.33	0.06	0.00	0.61
	4	0.18	0.78	0.04	0.00

Turning Counts or Proportions (PCU/hr) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.000	43.000	279.000	0.000
	2	32.000	0.000	3.000	0.000
	3	215.000	2.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Turning Proportions (PCU) - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	0.00	0.13	0.87	0.00
	2	0.91	0.00	0.09	0.00
	3	0.99	0.01	0.00	0.00
	4	0.25	0.25	0.25	0.25

Vehicle Mix

Average PCU Per Vehicle - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	**2**	**3**	**4**
From	**1**	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 4. Kingsland Road/ A5153 (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Average PCU Per Vehicle - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - 5. A5153/ Parc Cybi (for whole period)

		To			
		1	2	3	4
From	1	0.000	0.000	0.000	0.000
	2	0.000	0.000	0.000	0.000
	3	0.000	0.000	0.000	0.000
	4	0.000	0.000	0.000	0.000

Results

Results Summary

Roundabout	Arm	Max RFC	Max Delay (min)	Max Queue (PCU)	Max LOS	Total Demand (PCU/hr)	Total Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (min)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Queueing Total Delay (PCU-min)	Inclusive Queueing Average Delay (min)	Slope	Intercept (PCU/hr)

4. Kingsland Road/A5153	**A5153**	0.20	0.05	0.24	A	281.72	281.72	14.49	0.05	0.24	14.49	0.05	0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	0.24	0.06	0.31	A	313.00	313.00	18.67	0.06	0.31	18.67	0.06	0.572	1361.788
4. Kingsland Road/A5153	**Access**	0.07	0.13	0.08	A	36.00	36.00	4.54	0.13	0.08	4.54	0.13	0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	0.18	0.05	0.23	A	280.00	280.00	13.43	0.05	0.22	13.43	0.05	0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	0.24	0.06	0.32	A	322.00	322.00	18.94	0.06	0.32	18.95	0.06	0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	0.03	0.05	0.03	A	35.00	35.00	1.76	0.05	0.03	1.76	0.05	0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	0.16	0.05	0.18	A	223.77	223.77	10.96	0.05	0.18	10.96	0.05	0.600	1459.237
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.618	1524.323

Main Results

Main results: (12:15-12:30)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	280.89	70.22	279.93	223.09	230.25	0.00	1439.30	959.09	0.195	0.00	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	311.75	420.73	89.45	0.00	1310.65	1180.49	0.239	0.00	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	35.70	35.29	365.91	0.00	505.13	151.28	0.071	0.00	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	279.10	227.37	174.24	0.00	1522.42	1205.03	0.184	0.00	0.22
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	320.73	252.21	2.05	0.00	1333.16	932.69	0.242	0.00	0.32
5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	34.88	44.88	277.90	0.00	1219.66	597.60	0.029	0.00	0.03
5. A5153/Parc Cybi	**A5153 (W)**	223.09	55.77	222.36	280.89	31.89	0.00	1440.10	1066.94	0.155	0.00	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	254.25	0.00	1367.10	429.25	0.000	0.00	0.00

Main results: (12:30-12:45)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	282.00	70.50	281.99	224.00	231.00	0.00	1438.83	959.09	0.196	0.24	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	313.00	422.93	90.06	0.00	1310.30	1180.49	0.239	0.31	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.49	367.57	0.00	504.54	151.28	0.071	0.08	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	280.00	228.57	175.00	0.00	1521.93	1205.03	0.184	0.22	0.22
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	322.00	253.93	2.06	0.00	1333.16	939.82	0.242	0.32	0.32

5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	35.00	45.06	279.00	0.00	1219.01	589.04	0.029	0.03	0.03
5. A5153/Parc Cybi	**A5153 (W)**	224.00	56.00	223.99	282.00	32.00	0.00	1440.03	1074.90	0.156	0.18	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	255.99	0.00	1366.02	407.46	0.000	0.00	0.00

Main results: (12:45-13:00)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	282.00	70.50	282.00	224.00	231.00	0.00	1438.83	959.09	0.196	0.24	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	313.00	422.94	90.06	0.00	1310.30	1180.49	0.239	0.31	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.49	367.57	0.00	504.54	151.28	0.071	0.08	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	280.00	228.57	175.00	0.00	1521.93	1205.03	0.184	0.22	0.23
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	322.00	253.93	2.06	0.00	1333.16	939.82	0.242	0.32	0.32
5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	35.00	45.06	279.00	0.00	1219.01	589.04	0.029	0.03	0.03
5. A5153/Parc Cybi	**A5153 (W)**	224.00	56.00	224.00	282.00	32.00	0.00	1440.03	1074.90	0.156	0.18	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	256.00	0.00	1366.02	407.46	0.000	0.00	0.00

Main results: (13:00-13:15)

Roundabout	Arm	Demand (PCU/hr)	Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)
4. Kingsland Road/A5153	**A5153**	282.00	70.50	282.00	224.00	231.00	0.00	1438.83	959.09	0.196	0.24	0.24
4. Kingsland Road/A5153	**Kingsland Road (S)**	313.00	78.25	313.00	422.94	90.06	0.00	1310.30	1180.49	0.239	0.31	0.31
4. Kingsland Road/A5153	**Access**	36.00	9.00	36.00	35.49	367.57	0.00	504.54	151.28	0.071	0.08	0.08
4. Kingsland Road/A5153	**Kingsland Road (N)**	280.00	70.00	280.00	228.57	175.00	0.00	1521.93	1205.03	0.184	0.23	0.23
5. A5153/Parc Cybi	**A5153 (E)**	322.00	80.50	322.00	253.93	2.06	0.00	1333.16	939.82	0.242	0.32	0.32
5. A5153/Parc Cybi	**Parc Cybi**	35.00	8.75	35.00	45.06	279.00	0.00	1219.01	589.04	0.029	0.03	0.03
5. A5153/Parc Cybi	**A5153 (W)**	224.00	56.00	224.00	282.00	32.00	0.00	1440.03	1074.90	0.156	0.18	0.18
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.00	0.00	256.00	0.00	1366.02	407.46	0.000	0.00	0.00

Queueing Delay Results

Queueing Delay results: (12:15-12:30)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	3.55	0.24	0.052	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	4.58	0.31	0.060	A	A
4. Kingsland Road/A5153	Access	1.10	0.07	0.128	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.31	0.22	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	4.65	0.31	0.059	A	A
5. A5153/Parc Cybi	Parc Cybi	0.43	0.03	0.051	A	A
5. A5153/Parc Cybi	A5153 (W)	2.69	0.18	0.049	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (12:30-12:45)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	3.64	0.24	0.052	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	4.69	0.31	0.060	A	A
4. Kingsland Road/A5153	Access	1.14	0.08	0.128	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.37	0.22	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	4.76	0.32	0.059	A	A
5. A5153/Parc Cybi	Parc Cybi	0.44	0.03	0.051	A	A
5. A5153/Parc Cybi	A5153 (W)	2.75	0.18	0.049	A	A
5. A5153/Parc Cybi	Stub	0.00	0.00	0.000	A	A

Queueing Delay results: (12:45-13:00)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	A5153	3.65	0.24	0.052	A	A
4. Kingsland Road/A5153	Kingsland Road (S)	4.70	0.31	0.060	A	A
4. Kingsland Road/A5153	Access	1.15	0.08	0.128	A	A
4. Kingsland Road/A5153	Kingsland Road (N)	3.38	0.23	0.048	A	A
5. A5153/Parc Cybi	A5153 (E)	4.77	0.32	0.059	A	A
5. A5153/Parc Cybi	Parc Cybi	0.44	0.03	0.051	A	A
5. A5153/Parc Cybi	A5153 (W)	2.76	0.18	0.049	A	A

5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Queueing Delay results: (13:00-13:15)

Roundabout	Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (min)	Unsignalised Level Of Service	Signalised Level Of Service
4. Kingsland Road/A5153	**A5153**	3.65	0.24	0.052	A	A
4. Kingsland Road/A5153	**Kingsland Road (S)**	4.70	0.31	0.060	A	A
4. Kingsland Road/A5153	**Access**	1.15	0.08	0.128	A	A
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.38	0.23	0.048	A	A
5. A5153/Parc Cybi	**A5153 (E)**	4.77	0.32	0.059	A	A
5. A5153/Parc Cybi	**Parc Cybi**	0.44	0.03	0.051	A	A
5. A5153/Parc Cybi	**A5153 (W)**	2.76	0.18	0.049	A	A
5. A5153/Parc Cybi	**Stub**	0.00	0.00	0.000	A	A

Overview: Standard Roundabout Geometry

Standard Geometry

Roundabout	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	Final Slope	Final Intercept (PCU/hr)
4. Kingsland Road/A5153	**A5153**	3.90	6.00	8.00	21.00	40.50	20.00		0.629	1584.077
4. Kingsland Road/A5153	**Kingsland Road (S)**	3.65	6.50	4.00	18.00	40.50	30.00		0.572	1361.788
4. Kingsland Road/A5153	**Access**	2.50	3.00	2.00	3.00	40.50	21.00		0.354	634.726
4. Kingsland Road/A5153	**Kingsland Road (N)**	3.80	6.50	8.00	25.00	40.50	16.00		0.645	1634.867
5. A5153/Parc Cybi	**A5153 (E)**	3.50	5.60	5.00	17.00	40.00	27.00		0.569	1334.331
5. A5153/Parc Cybi	**Parc Cybi**	3.75	5.50	3.00	25.00	40.00	19.00		0.593	1384.573
5. A5153/Parc Cybi	**A5153 (W)**	3.75	5.75	6.00	20.00	40.00	24.00		0.600	1459.237
5. A5153/Parc Cybi	**Stub**	4.40	5.25	3.00	20.00	40.00	19.00		0.618	1524.323

Overview: Time Segment Results

Time Segment Results

Time Segment	Roundabout	Arm	Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Pedestrian Demand (Ped/hr)	Start Queue (PCU)	End Queue (PCU)	Queueing Total Delay (PCU-min)	Geometric Total Delay (PCU-min)	Average Delay Per Arriving Vehicle (min)
1	4. Kingsland Road/A5153	A5153	280.89	1439.30	0.195	0.00	0.00	0.24	3.55	(0.02)	0.052
1	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	1310.65	0.239	0.00	0.00	0.31	4.58	(0.02)	0.060
1	4. Kingsland Road/A5153	Access	36.00	505.13	0.071	0.00	0.00	0.08	1.10	(0.02)	0.128
1	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	1522.42	0.184	0.00	0.00	0.22	3.31	(0.02)	0.048
1	5. A5153/Parc Cybi	A5153 (E)	322.00	1333.16	0.242	0.00	0.00	0.32	4.65	(0.02)	0.059
1	5. A5153/Parc Cybi	Parc Cybi	35.00	1219.66	0.029	0.00	0.00	0.03	0.43	(0.02)	0.051
1	5. A5153/Parc Cybi	A5153 (W)	223.09	1440.10	0.155	0.00	0.00	0.18	2.69	(0.02)	0.049
1	5. A5153/Parc Cybi	Stub	0.00	1367.10	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
2	4. Kingsland Road/A5153	A5153	282.00	1438.83	0.196	0.00	0.24	0.24	3.64	(0.02)	0.052
2	4. Kingsland Road/A5153	Kingsland Road (S)	313.00	1310.30	0.239	0.00	0.31	0.31	4.69	(0.02)	0.060
2	4. Kingsland Road/A5153	Access	36.00	504.54	0.071	0.00	0.08	0.08	1.14	(0.02)	0.128
2	4. Kingsland Road/A5153	Kingsland Road (N)	280.00	1521.93	0.184	0.00	0.22	0.22	3.37	(0.02)	0.048
2	5. A5153/Parc Cybi	A5153 (E)	322.00	1333.16	0.242	0.00	0.32	0.32	4.76	(0.02)	0.059
2	5. A5153/Parc Cybi	Parc Cybi	35.00	1219.01	0.029	0.00	0.03	0.03	0.44	(0.02)	0.051
2	5. A5153/Parc	A5153 (W)	224.00	1440.03	0.156	0.00	0.18	0.18	2.75	(0.02)	0.049

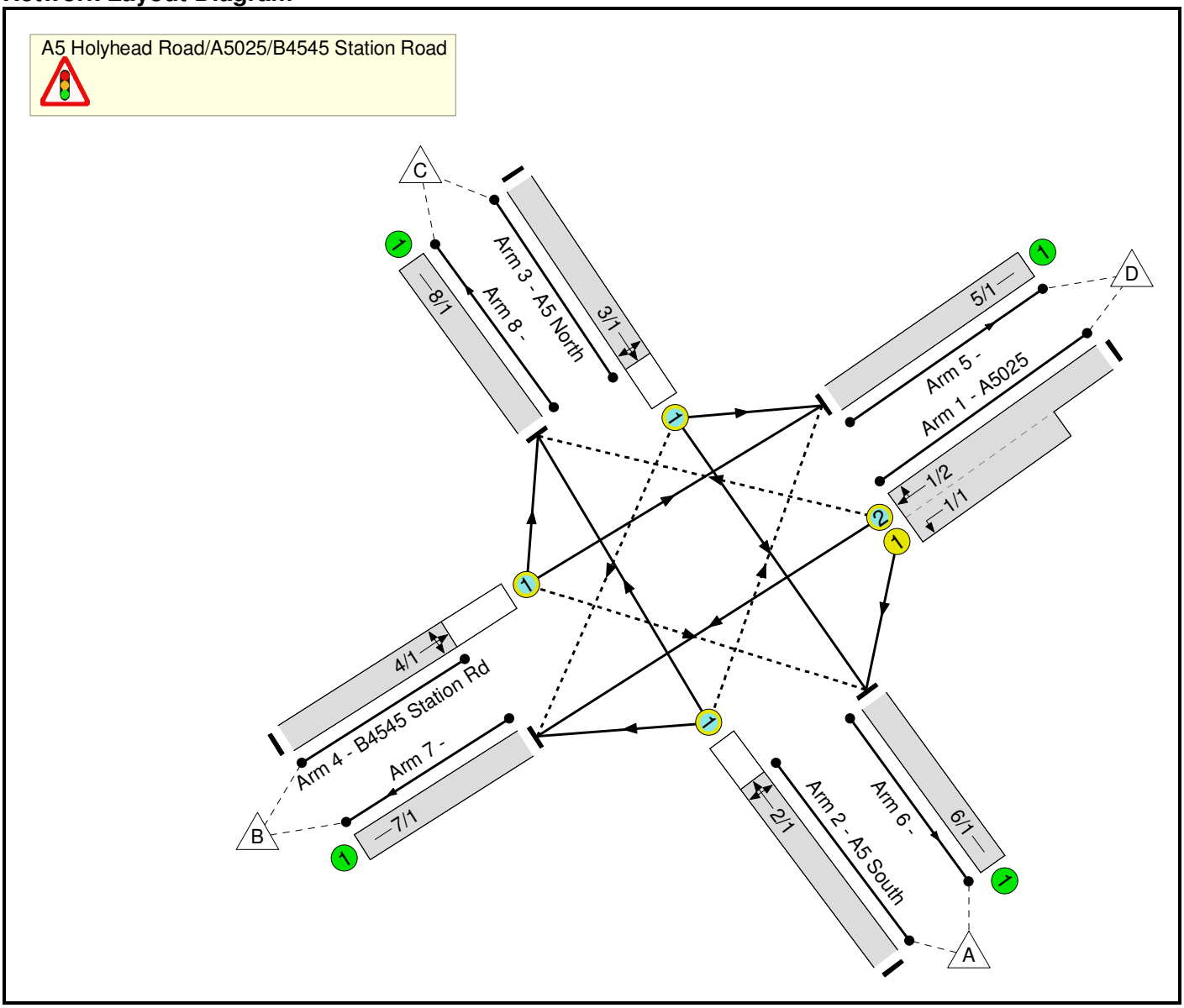
	Cybi										
2	**5. A5153/Parc Cybi**	**Stub**	0.00	1366.02	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
3	**4. Kingsland Road/A5153**	**A5153**	282.00	1438.83	0.196	0.00	0.24	0.24	3.65	(0.02)	0.052
3	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	1310.30	0.239	0.00	0.31	0.31	4.70	(0.02)	0.060
3	**4. Kingsland Road/A5153**	**Access**	36.00	504.54	0.071	0.00	0.08	0.08	1.15	(0.02)	0.128
3	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	1521.93	0.184	0.00	0.22	0.23	3.38	(0.02)	0.048
3	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	1333.16	0.242	0.00	0.32	0.32	4.77	(0.02)	0.059
3	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	1219.01	0.029	0.00	0.03	0.03	0.44	(0.02)	0.051
3	**5. A5153/Parc Cybi**	**A5153 (W)**	224.00	1440.03	0.156	0.00	0.18	0.18	2.76	(0.02)	0.049
3	**5. A5153/Parc Cybi**	**Stub**	0.00	1366.02	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000
4	**4. Kingsland Road/A5153**	**A5153**	282.00	1438.83	0.196	0.00	0.24	0.24	3.65	(0.02)	0.052
4	**4. Kingsland Road/A5153**	**Kingsland Road (S)**	313.00	1310.30	0.239	0.00	0.31	0.31	4.70	(0.02)	0.060
4	**4. Kingsland Road/A5153**	**Access**	36.00	504.54	0.071	0.00	0.08	0.08	1.15	(0.02)	0.128
4	**4. Kingsland Road/A5153**	**Kingsland Road (N)**	280.00	1521.93	0.184	0.00	0.23	0.23	3.38	(0.02)	0.048
4	**5. A5153/Parc Cybi**	**A5153 (E)**	322.00	1333.16	0.242	0.00	0.32	0.32	4.77	(0.02)	0.059
4	**5. A5153/Parc Cybi**	**Parc Cybi**	35.00	1219.01	0.029	0.00	0.03	0.03	0.44	(0.02)	0.051
4	**5. A5153/Parc Cybi**	**A5153 (W)**	224.00	1440.03	0.156	0.00	0.18	0.18	2.76	(0.02)	0.049
4	**5. A5153/Parc Cybi**	**Stub**	0.00	1366.02	0.000	0.00	0.00	0.00	0.00	(0.02)	0.000

Full Input Data And Results

User and Project Details

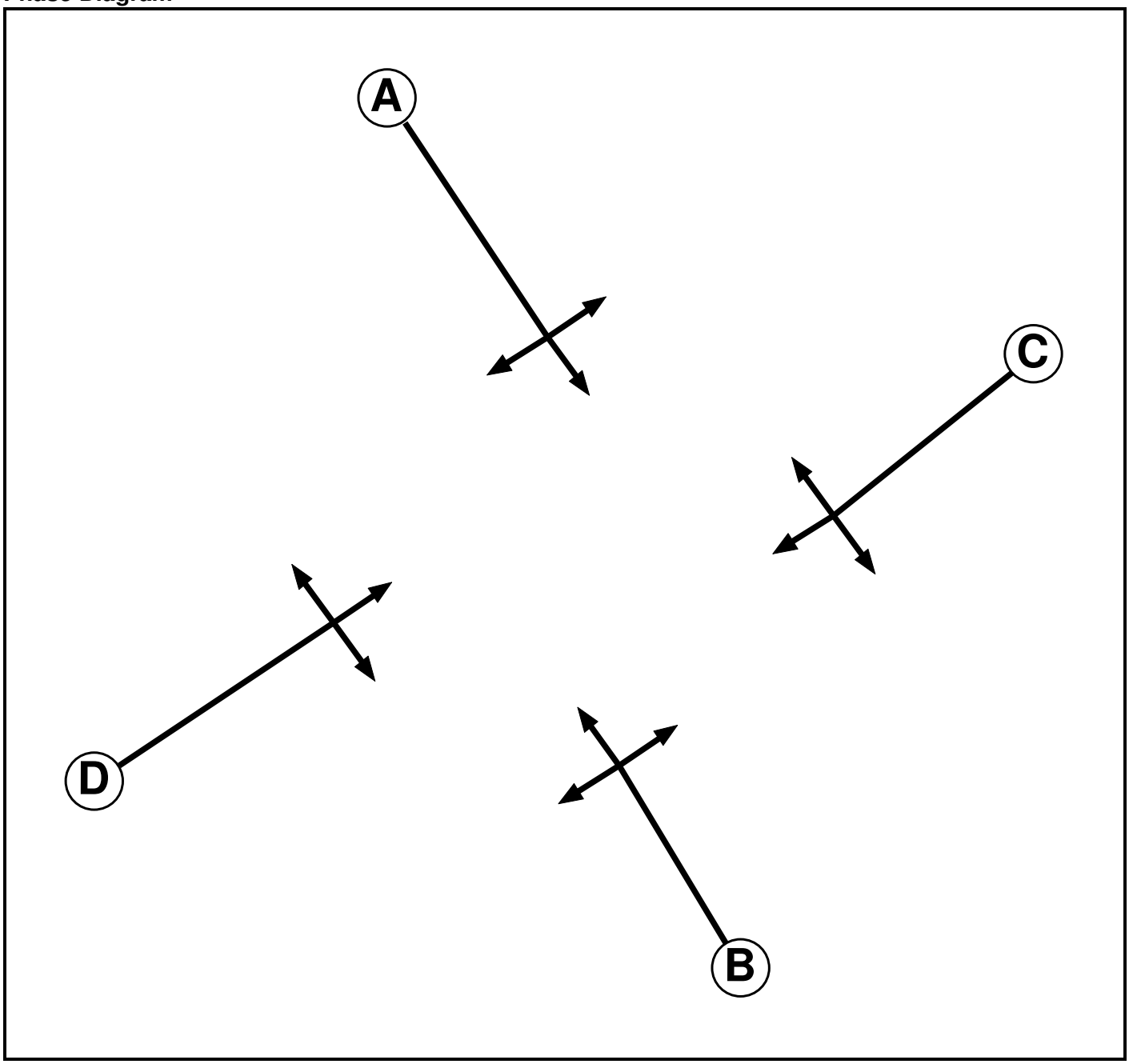
Project:	**90145 Penrhos Leisure Village**
Title:	**A5 Holyhead Road/A5025/B4545 Station Road**
Location:	Anglesey
File name:	7. A5_A5025.lsg3x
Author:	T Nichol
Company:	Curtins Consulting
Address:	Manchester
Notes:	Mott MacDonald comments - 21/02/13

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7

Full Input Data And Results

Phase Intergreens Matrix

Terminating Phase	Starting Phase				
		A	B	C	D
A			-	6	6
B	-			6	6
C	6	6			-
D	6	6	-		

Phases in Stage

Stage No.	Phases in Stage
1	A B
2	C D

Prohibited Stage Change

From Stage	To Stage		
		1	2
	1		6
	2	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A5 Holyhead Road/A5025/B4545 Station Road

Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (A5025)	8/1 (Right)	1439	0	4/1	1.09	To 5/1 (Ahead) To 8/1 (Left)	-	-	-	-	-
2/1 (A5 South)	5/1 (Right)	1439	0	3/1	1.09	To 5/1 (Left) To 6/1 (Ahead)	2.60	-	0.50	3	2.60
3/1 (A5 North)	7/1 (Right)	1439	0	2/1	1.09	To 7/1 (Left) To 8/1 (Ahead)	2.40	-	0.50	2	2.40
4/1 (B4545 Station Rd)	6/1 (Right)	1439	0	1/1	1.09	All	3.60	-	0.50	4	3.60
				1/2	1.09	To 7/1 (Ahead)					

Full Input Data And Results

Lane Input Data

Junction: A5 Holyhead Road/A5025/B4545 Station Road												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (A5025)	U	C	2	3	9.2	Geom	-	3.25	0.00	Y	Arm 6 Left	18.00
1/2 (A5025)	O	C	2	3	60.0	Geom	-	3.30	0.00	Y	Arm 7 Ahead	Inf
											Arm 8 Right	12.00
2/1 (A5 South)	O	B	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 5 Right	14.00
											Arm 7 Left	12.00
											Arm 8 Ahead	Inf
3/1 (A5 North)	O	A	2	3	60.0	Geom	-	3.45	0.00	Y	Arm 5 Left	12.00
											Arm 6 Ahead	Inf
											Arm 7 Right	12.00
4/1 (B4545 Station Rd)	O	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	12.00
											Arm 8 Left	12.00
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM Base+Com 2032'	08:30	09:30	01:00	
2: 'PM Base+Com 2032'	15:45	16:45	01:00	
3: 'Sat Base+Com 2032'	12:15	13:15	01:00	
4: 'AM Base+Dev 2032'	08:30	09:30	01:00	
5: 'PM Base+Dev 2032'	15:45	16:45	01:00	
6: 'Sat Base+Dev 2032'	12:15	13:15	01:00	
7: 'AM Base+Com+Dev 2032'	08:30	09:30	01:00	
8: 'PM Base+Com+Dev 2032'	15:45	16:45	01:00	
9: 'Sat Base+Com+Dev 2032'	12:15	13:15	01:00	

Scenario 1: 'AM Base+Com 2032' (FG1: 'AM Base+Com 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	146	202	42	390
	B	140	0	98	38	276
	C	184	71	0	88	343
	D	125	49	221	0	395
	Tot.	449	266	521	168	1404

Traffic Lane Flows

Lane	Scenario 1: AM Base+Com 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	125
1/2 (with short)	395(In) 270(Out)
2/1	390
3/1	343
4/1	276
5/1	168
6/1	449
7/1	266
8/1	521

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	18.1 %	1764	1764
				Arm 8 Right	12.00	81.9 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	10.8 %	1876	1876
				Arm 7 Left	12.00	37.4 %		
				Arm 8 Ahead	Inf	51.8 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	25.7 %	1853	1853
				Arm 6 Ahead	Inf	53.6 %		
				Arm 7 Right	12.00	20.7 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	13.8 %	1774	1774
				Arm 6 Right	12.00	50.7 %		
				Arm 8 Left	12.00	35.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: 'PM Base+Com 2032' (FG2: 'PM Base+Com 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	189	221	123	533
	B	172	0	120	71	363
	C	204	120	0	281	605
	D	74	70	168	0	312
	Tot.	450	379	509	475	1813

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: PM Base+Com 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	74
1/2 (with short)	312(In) 238(Out)
2/1	533
3/1	605
4/1	363
5/1	475
6/1	450
7/1	379
8/1	509

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	29.4 %	1787	1787
				Arm 8 Right	12.00	70.6 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	23.1 %	1857	1857
				Arm 7 Left	12.00	35.5 %		
				Arm 8 Ahead	Inf	41.5 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	46.4 %	1810	1810
				Arm 6 Ahead	Inf	33.7 %		
				Arm 7 Right	12.00	19.8 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	19.6 %	1785	1785
				Arm 6 Right	12.00	47.4 %		
				Arm 8 Left	12.00	33.1 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'Sat Base+Com 2032' (FG3: 'Sat Base+Com 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	167	133	85	385
	B	119	0	101	47	267
	C	177	87	0	185	449
	D	68	54	139	0	261
	Tot.	364	308	373	317	1362

Traffic Lane Flows

Lane	Scenario 3: Sat Base+Com 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	68
1/2 (with short)	261(In) 193(Out)
2/1	385
3/1	449
4/1	267
5/1	317
6/1	364
7/1	308
8/1	373

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	28.0 %	1784	1784
				Arm 8 Right	12.00	72.0 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	22.1 %	1842	1842
				Arm 7 Left	12.00	43.4 %		
				Arm 8 Ahead	Inf	34.5 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	41.2 %	1822	1822
				Arm 6 Ahead	Inf	39.4 %		
				Arm 7 Right	12.00	19.4 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	17.6 %	1782	1782
				Arm 6 Right	12.00	44.6 %		
				Arm 8 Left	12.00	37.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'AM Base+Dev 2032' (FG4: 'AM Base+Dev 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	146	174	42	362
	B	140	0	67	38	245
	C	220	66	0	87	373
	D	125	49	155	0	329
	Tot.	485	261	396	167	1309

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: AM Base+Dev 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	125
1/2 (with short)	329(In) 204(Out)
2/1	362
3/1	373
4/1	245
5/1	167
6/1	485
7/1	261
8/1	396

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	24.0 %	1776	1776
				Arm 8 Right	12.00	76.0 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	11.6 %	1868	1868
				Arm 7 Left	12.00	40.3 %		
				Arm 8 Ahead	Inf	48.1 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	23.3 %	1864	1864
				Arm 6 Ahead	Inf	59.0 %		
				Arm 7 Right	12.00	17.7 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	15.5 %	1777	1777
				Arm 6 Right	12.00	57.1 %		
				Arm 8 Left	12.00	27.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: 'PM Base+Dev 2032' (FG5: 'PM Base+Dev 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	189	234	123	546
	B	172	0	99	71	342
	C	185	88	0	211	484
	D	74	70	143	0	287
	Tot.	431	347	476	405	1659

Traffic Lane Flows

Lane	Scenario 5: PM Base+Dev 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	74
1/2 (with short)	287(In) 213(Out)
2/1	546
3/1	484
4/1	342
5/1	405
6/1	431
7/1	347
8/1	476

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	32.9 %	1794	1794
				Arm 8 Right	12.00	67.1 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	22.5 %	1860	1860
				Arm 7 Left	12.00	34.6 %		
				Arm 8 Ahead	Inf	42.9 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	43.6 %	1819	1819
				Arm 6 Ahead	Inf	38.2 %		
				Arm 7 Right	12.00	18.2 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	20.8 %	1788	1788
				Arm 6 Right	12.00	50.3 %		
				Arm 8 Left	12.00	28.9 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: 'Sat Base+Dev 2032' (FG6: 'Sat Base+Dev 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	167	168	85	420
	B	119	0	101	47	267
	C	202	87	0	188	477
	D	68	54	141	0	263
	Tot.	389	308	410	320	1427

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: Sat Base+Dev 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	68
1/2 (with short)	263(In) 195(Out)
2/1	420
3/1	477
4/1	267
5/1	320
6/1	389
7/1	308
8/1	410

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	27.7 %	1784	1784
				Arm 8 Right	12.00	72.3 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	20.2 %	1853	1853
				Arm 7 Left	12.00	39.8 %		
				Arm 8 Ahead	Inf	40.0 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	39.4 %	1828	1828
				Arm 6 Ahead	Inf	42.3 %		
				Arm 7 Right	12.00	18.2 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	17.6 %	1782	1782
				Arm 6 Right	12.00	44.6 %		
				Arm 8 Left	12.00	37.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 7: 'AM Base+Com+Dev 2032' (FG7: 'AM Base+Com+Dev 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	146	232	42	420
	B	140	0	98	38	276
	C	233	71	0	92	396
	D	125	49	223	0	397
	Tot.	498	266	553	172	1489

Traffic Lane Flows

Lane	Scenario 7: AM Base+Com+Dev 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	125
1/2 (with short)	397(In) 272(Out)
2/1	420
3/1	396
4/1	276
5/1	172
6/1	498
7/1	266
8/1	553

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	18.0 %	1764	1764
				Arm 8 Right	12.00	82.0 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	10.0 %	1883	1883
				Arm 7 Left	12.00	34.8 %		
				Arm 8 Ahead	Inf	55.2 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	23.2 %	1864	1864
				Arm 6 Ahead	Inf	58.8 %		
				Arm 7 Right	12.00	17.9 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	13.8 %	1774	1774
				Arm 6 Right	12.00	50.7 %		
				Arm 8 Left	12.00	35.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 8: 'PM Base+Com+Dev 2032' (FG8: 'PM Base+Com+Dev 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	189	272	123	584
	B	172	0	120	71	363
	C	236	120	0	284	640
	D	74	70	171	0	315
	Tot.	482	379	563	478	1902

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: PM Base+Com+Dev 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	74
1/2 (with short)	315(In) 241(Out)
2/1	584
3/1	640
4/1	363
5/1	478
6/1	482
7/1	379
8/1	563

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	29.0 %	1787	1787
				Arm 8 Right	12.00	71.0 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	21.1 %	1867	1867
				Arm 7 Left	12.00	32.4 %		
				Arm 8 Ahead	Inf	46.6 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	44.4 %	1817	1817
				Arm 6 Ahead	Inf	36.9 %		
				Arm 7 Right	12.00	18.8 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	19.6 %	1785	1785
				Arm 6 Right	12.00	47.4 %		
				Arm 8 Left	12.00	33.1 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 9: 'Sat Base+Com+Dev 2032' (FG9: 'Sat Base+Com+Dev 2032', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	167	168	85	420
	B	119	0	101	47	267
	C	202	87	0	188	477
	D	68	54	141	0	263
	Tot.	389	308	410	320	1427

Traffic Lane Flows

Lane	Scenario 9: Sat Base+Com+Dev 2032
Junction: A5 Holyhead Road/A5025/B4545 Station Road	
1/1 (short)	68
1/2 (with short)	263(In) 195(Out)
2/1	420
3/1	477
4/1	267
5/1	320
6/1	389
7/1	308
8/1	410

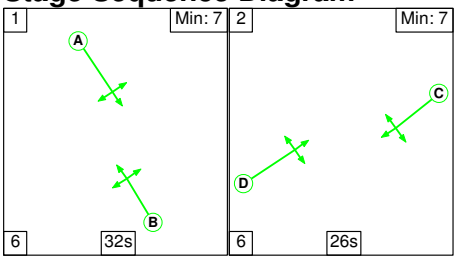
Full Input Data And Results

Lane Saturation Flows

Junction: A5 Holyhead Road/A5025/B4545 Station Road								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (A5025)	3.25	0.00	Y	Arm 6 Left	18.00	100.0 %	1791	1791
1/2 (A5025)	3.30	0.00	Y	Arm 7 Ahead	Inf	27.7 %	1784	1784
				Arm 8 Right	12.00	72.3 %		
2/1 (A5 South)	3.70	0.00	Y	Arm 5 Right	14.00	20.2 %	1853	1853
				Arm 7 Left	12.00	39.8 %		
				Arm 8 Ahead	Inf	40.0 %		
3/1 (A5 North)	3.45	0.00	Y	Arm 5 Left	12.00	39.4 %	1828	1828
				Arm 6 Ahead	Inf	42.3 %		
				Arm 7 Right	12.00	18.2 %		
4/1 (B4545 Station Rd)	3.50	0.00	Y	Arm 5 Ahead	Inf	17.6 %	1782	1782
				Arm 6 Right	12.00	44.6 %		
				Arm 8 Left	12.00	37.8 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM Base+Com 2032' (FG1: 'AM Base+Com 2032', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

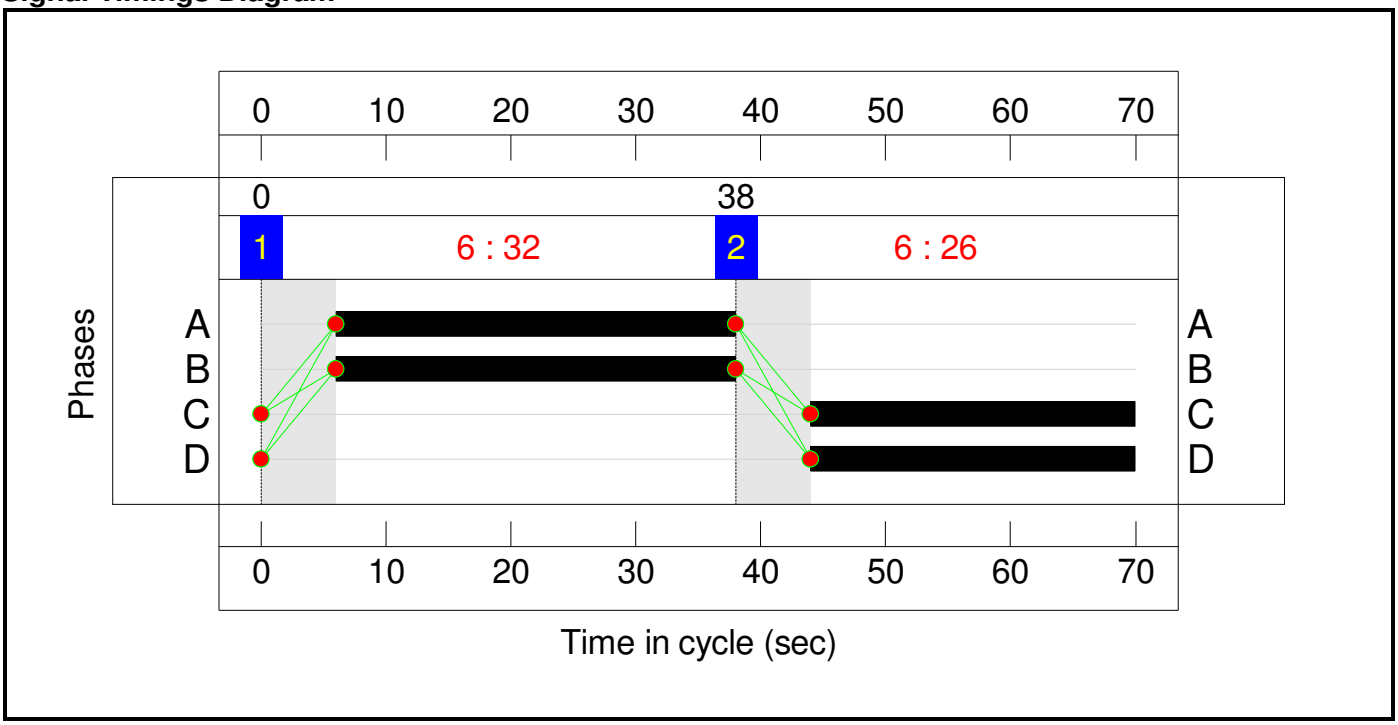


Stage Timings

Stage	1	2
Duration	32	26
Change Point	0	38

Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.3%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.3%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	26	-	395	1764:1791	665	59.4%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	32	-	390	1876	636	61.3%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	32	-	343	1853	596	57.5%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	26	-	276	1774	624	44.3%
5/1		U	N/A	N/A	-		-	-	-	168	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	449	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	266	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	521	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**421**	**41**	**12**	**5.5**	**2.6**	**0.2**	**8.2**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**421**	**41**	**12**	**5.5**	**2.6**	**0.2**	**8.2**	**-**	**-**	**-**	**-**
1/2+1/1	395	395	180	41	0	1.7	0.7	-	2.4	22.1	4.0	0.7	4.8
2/1	390	390	40	0	2	1.5	0.8	0.0	2.3	20.8	5.5	0.8	6.3
3/1	343	343	69	0	2	1.1	0.7	0.1	1.9	19.9	4.4	0.7	5.1
4/1	276	276	132	0	8	1.2	0.4	0.1	1.7	21.9	3.8	0.4	4.2
5/1	168	168	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	449	449	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	266	266	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	521	521	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 46.7
PRC Over All Lanes (%): 46.7

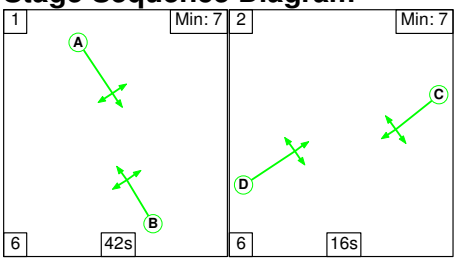
Total Delay for Signalled Lanes (pcuHr): 8.24
Total Delay Over All Lanes(pcuHr): 8.24

Cycle Time (s): 70

Full Input Data And Results

Scenario 2: 'PM Base+Com 2032' (FG2: 'PM Base+Com 2032', Plan 1: 'Network Control Plan 1')

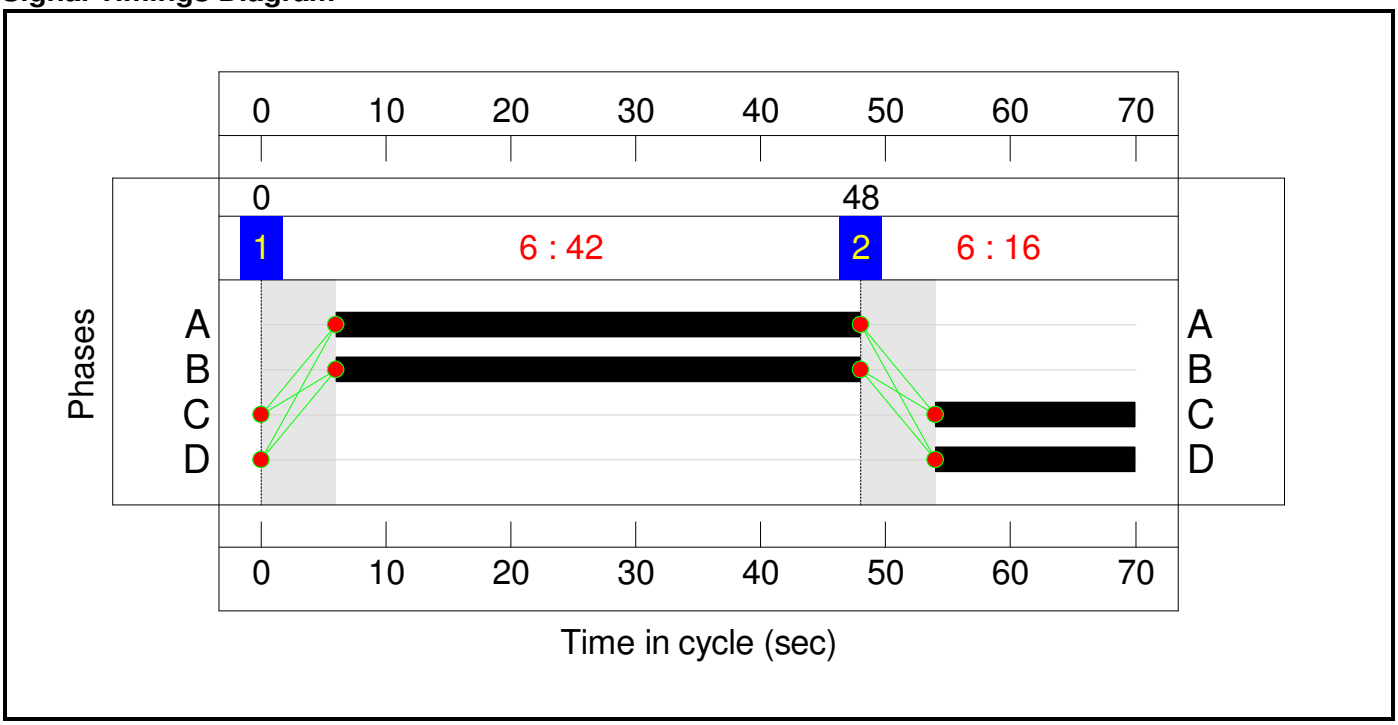
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	42	16
Change Point	0	48

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.0%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**88.0%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	16	-	312	1787:1791	362	86.2%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	42	-	533	1857	605	88.0%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	42	-	605	1810	788	76.8%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	16	-	363	1785	424	85.6%
5/1		U	N/A	N/A	-		-	-	-	475	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	450	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	379	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	509	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**470**	**36**	**76**	**7.6**	**10.5**	**0.4**	**18.5**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**470**	**36**	**76**	**7.6**	**10.5**	**0.4**	**18.5**	**-**	**-**	**-**	**-**
1/2+1/1	312	312	132	36	0	2.0	2.8	-	4.8	55.5	4.2	2.8	7.0
2/1	533	533	109	0	14	1.2	3.4	0.1	4.7	31.8	6.2	3.4	9.6
3/1	605	605	117	0	3	1.8	1.6	0.1	3.5	21.1	9.6	1.6	11.2
4/1	363	363	113	0	59	2.5	2.7	0.2	5.4	54.0	6.7	2.7	9.4
5/1	475	475	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	450	450	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	379	379	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	509	509	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 2.2
PRC Over All Lanes (%): 2.2

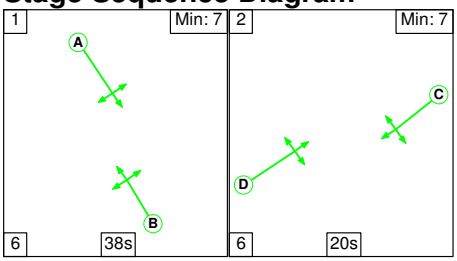
Total Delay for Signalled Lanes (pcuHr): 18.50
Total Delay Over All Lanes(pcuHr): 18.50

Cycle Time (s): 70

Full Input Data And Results

Scenario 3: 'Sat Base+Com 2032' (FG3: 'Sat Base+Com 2032', Plan 1: 'Network Control Plan 1')

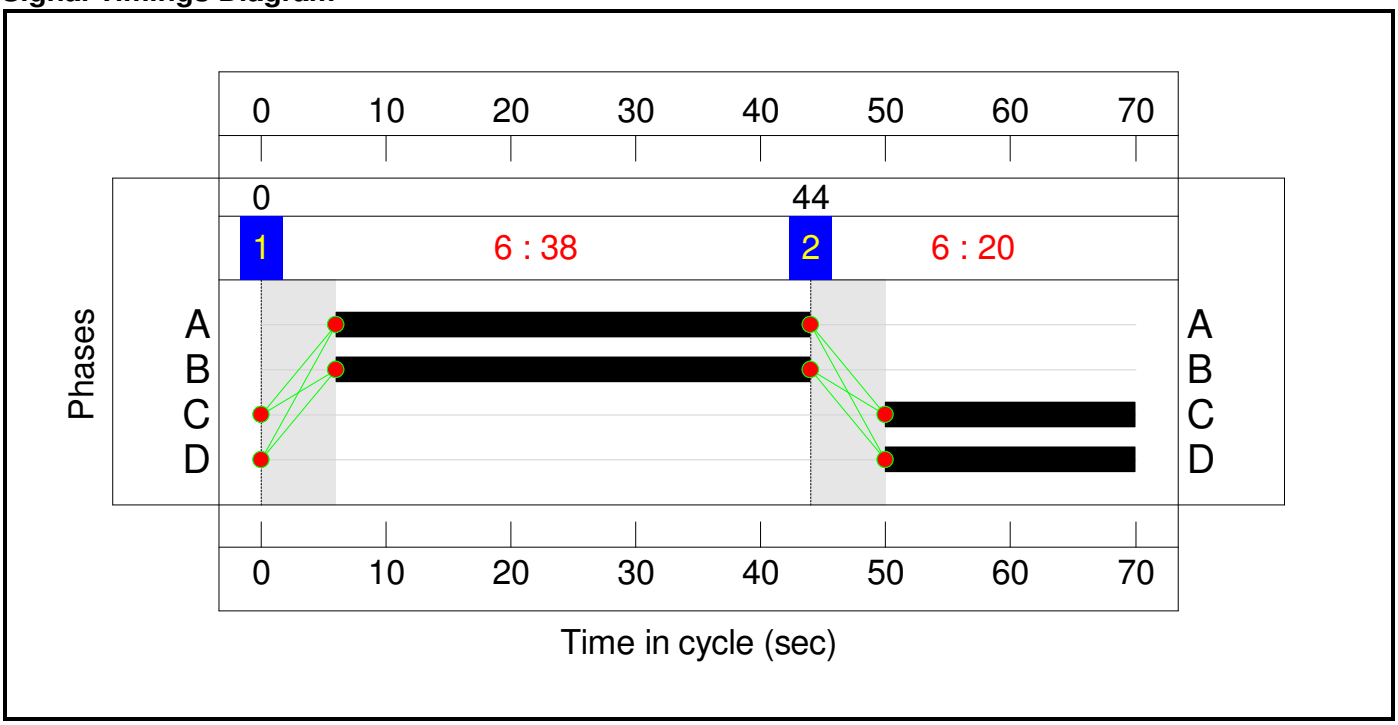
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	38	20
Change Point	0	44

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.0%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.0%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	20	-	261	1784:1791	442	59.1%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	38	-	385	1842	648	59.5%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	38	-	449	1822	748	60.0%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	20	-	267	1782	535	49.9%
5/1		U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	364	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	308	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	373	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**380**	**37**	**13**	**5.1**	**2.7**	**0.2**	**7.9**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**380**	**37**	**13**	**5.1**	**2.7**	**0.2**	**7.9**	**-**	**-**	**-**	**-**
1/2+1/1	261	261	102	37	0	1.4	0.7	-	2.1	28.9	3.0	0.7	3.7
2/1	385	385	81	0	4	1.0	0.7	0.1	1.8	16.6	4.6	0.7	5.3
3/1	449	449	85	0	2	1.2	0.7	0.1	2.0	16.2	6.5	0.7	7.2
4/1	267	267	112	0	7	1.5	0.5	0.0	2.0	27.4	4.2	0.5	4.7
5/1	317	317	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	364	364	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	308	308	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	373	373	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 50.0
PRC Over All Lanes (%): 50.0

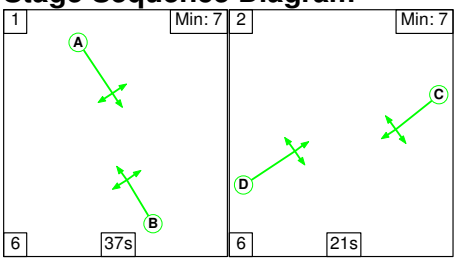
Total Delay for Signalled Lanes (pcuHr): 7.93
Total Delay Over All Lanes(pcuHr): 7.93

Cycle Time (s): 70

Full Input Data And Results

Scenario 4: 'AM Base+Dev 2032' (FG4: 'AM Base+Dev 2032', Plan 1: 'Network Control Plan 1')

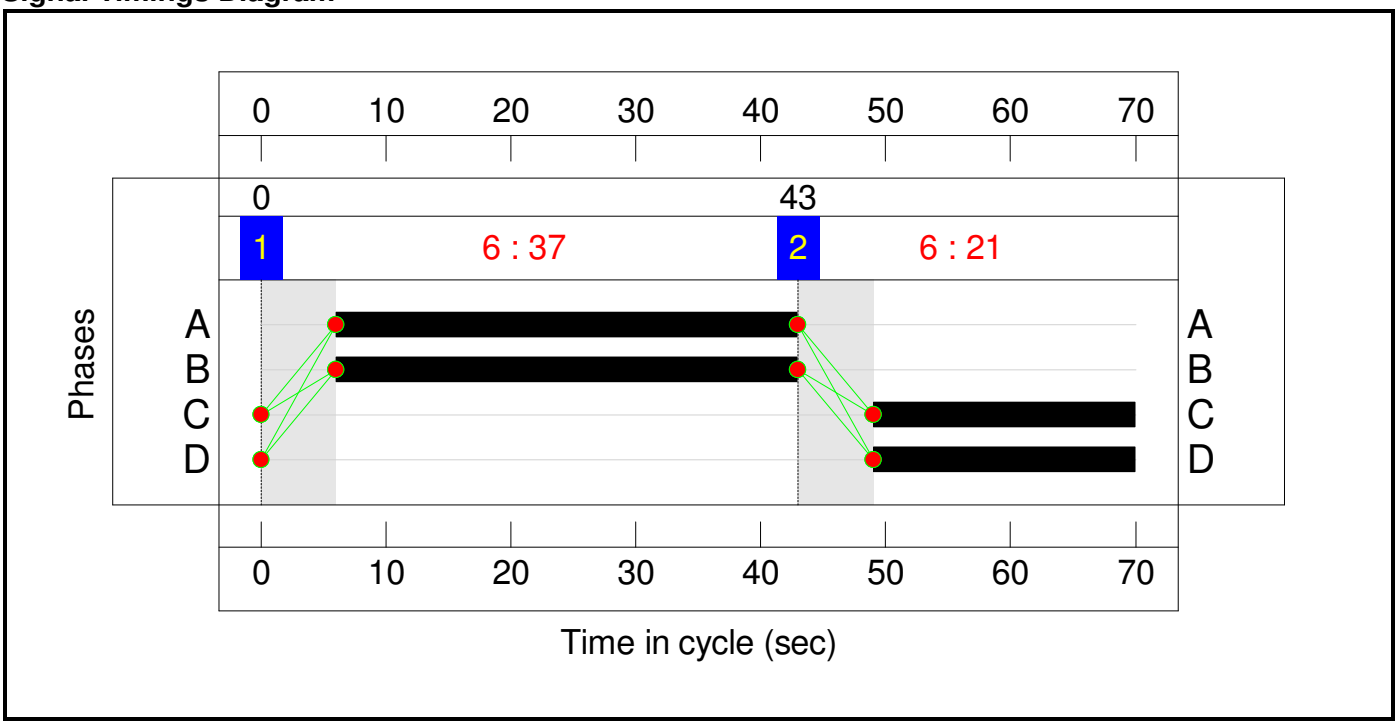
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	37	21
Change Point	0	43

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**52.9%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**52.9%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	21	-	329	1776:1791	622	52.9%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	37	-	362	1868	686	52.7%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	37	-	373	1864	723	51.6%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	21	-	245	1777	500	49.0%
5/1		U	N/A	N/A	-		-	-	-	167	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	485	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	261	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	396	Inf	Inf	0.0%

Full Input Data And Results

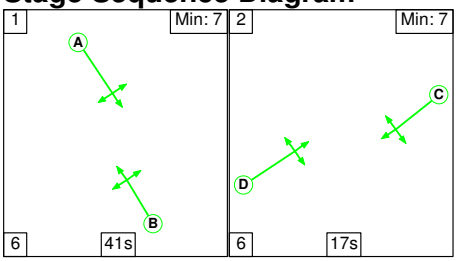
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**353**	**39**	**12**	**4.9**	**2.1**	**0.2**	**7.2**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**353**	**39**	**12**	**4.9**	**2.1**	**0.2**	**7.2**	**-**	**-**	**-**	**-**
1/2+1/1	329	329	116	39	0	1.7	0.6	-	2.2	24.5	3.1	0.6	3.7
2/1	362	362	40	0	2	1.0	0.6	0.0	1.5	15.4	4.4	0.6	5.0
3/1	373	373	64	0	2	0.9	0.5	0.0	1.5	14.7	4.1	0.5	4.7
4/1	245	245	132	0	8	1.3	0.5	0.1	1.9	27.9	3.9	0.5	4.4
5/1	167	167	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	485	485	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	261	261	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	396	396	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 70.3 Total Delay for Signalled Lanes (pcuHr): 7.21 Cycle Time (s): 70
PRC Over All Lanes (%): 70.3 Total Delay Over All Lanes(pcuHr): 7.21

Full Input Data And Results

Scenario 5: 'PM Base+Dev 2032' (FG5: 'PM Base+Dev 2032', Plan 1: 'Network Control Plan 1')

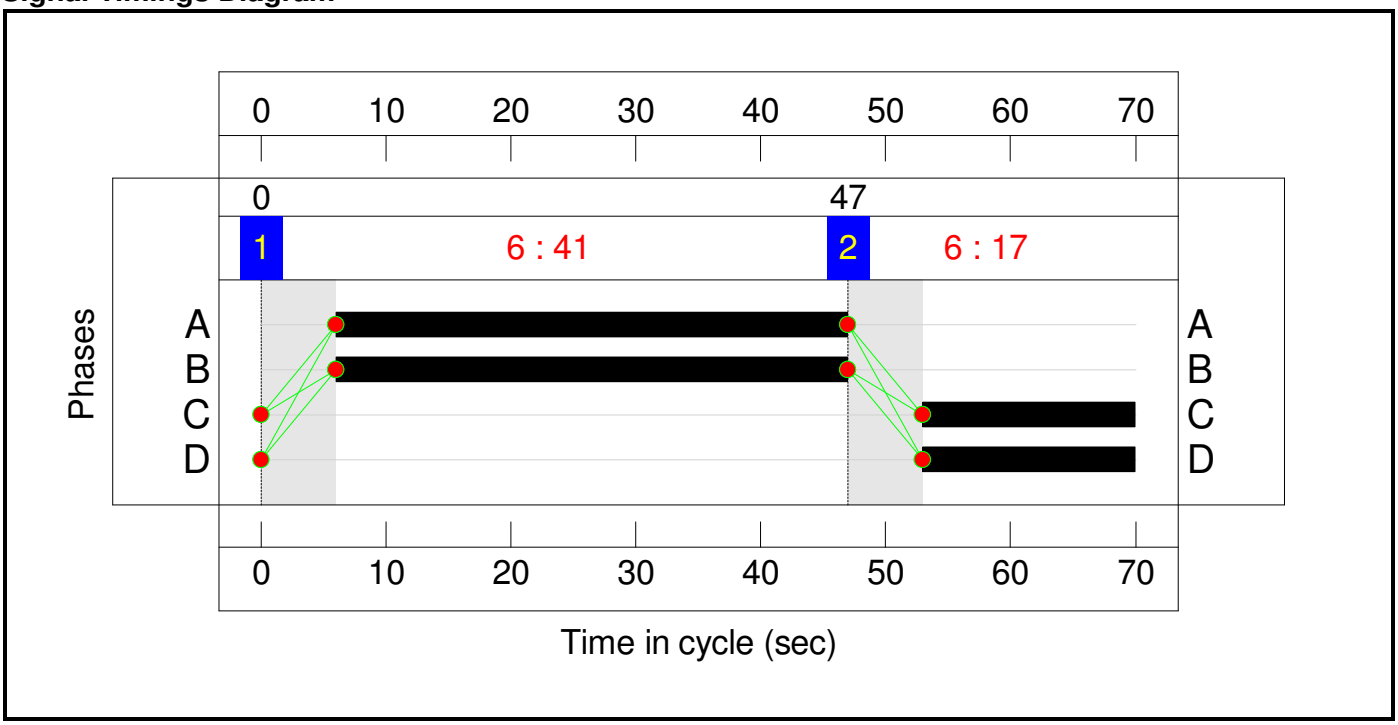
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	41	17
Change Point	0	47

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**80.2%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**80.2%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	17	-	287	1794:1791	402	71.3%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	41	-	546	1860	681	80.2%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	41	-	484	1819	682	70.9%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	17	-	342	1788	444	77.0%
5/1		U	N/A	N/A	-		-	-	-	405	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	431	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	347	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	476	Inf	Inf	0.0%

Full Input Data And Results

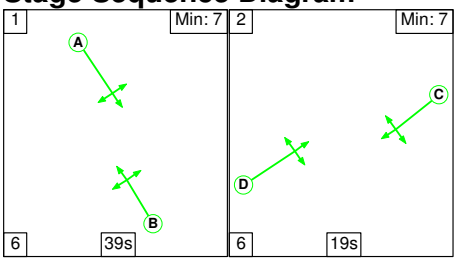
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**442**	**34**	**50**	**6.6**	**6.0**	**0.3**	**12.9**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**442**	**34**	**50**	**6.6**	**6.0**	**0.3**	**12.9**	**-**	**-**	**-**	**-**
1/2+1/1	287	287	109	34	0	1.7	1.2	-	2.9	37.0	3.5	1.2	4.8
2/1	546	546	118	0	5	1.4	2.0	0.1	3.4	22.7	6.7	2.0	8.6
3/1	484	484	85	0	3	1.2	1.2	0.1	2.5	18.5	7.4	1.2	8.6
4/1	342	342	130	0	42	2.3	1.6	0.2	4.0	42.6	6.1	1.6	7.7
5/1	405	405	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	431	431	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	347	347	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 PRC for Signalled Lanes (%): 12.2 Total Delay for Signalled Lanes (pcuHr): 12.92 Cycle Time (s): 70
PRC Over All Lanes (%): 12.2 Total Delay Over All Lanes(pcuHr): 12.92

Full Input Data And Results

Scenario 6: 'Sat Base+Dev 2032' (FG6: 'Sat Base+Dev 2032', Plan 1: 'Network Control Plan 1')

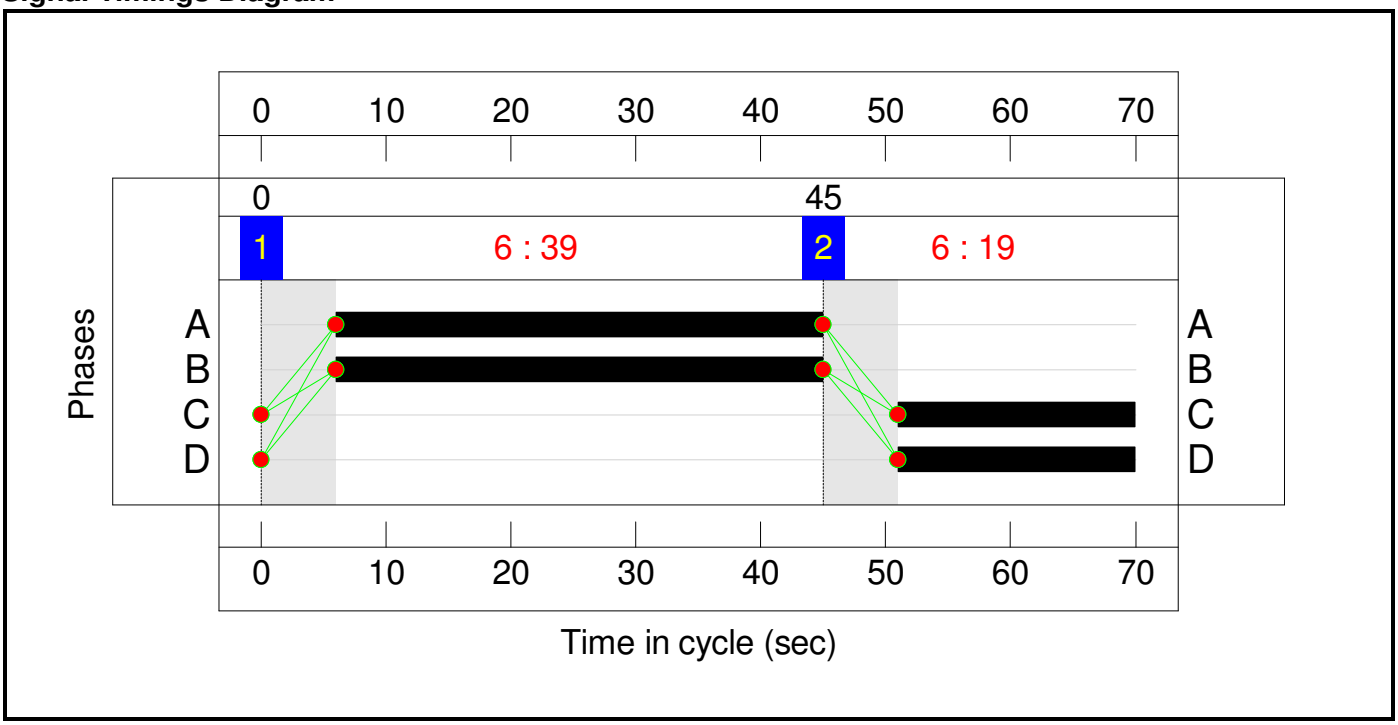
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	39	19
Change Point	0	45

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**68.4%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**68.4%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	19	-	263	1784:1791	410	64.1%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	39	-	420	1853	614	68.4%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	39	-	477	1828	730	65.4%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	19	-	267	1782	509	52.4%
5/1		U	N/A	N/A	-		-	-	-	320	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	389	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	308	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**382**	**37**	**13**	**5.3**	**3.4**	**0.2**	**9.0**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**382**	**37**	**13**	**5.3**	**3.4**	**0.2**	**9.0**	**-**	**-**	**-**	**-**
1/2+1/1	263	263	104	37	0	1.5	0.9	-	2.3	31.9	3.1	0.9	4.0
2/1	420	420	81	0	4	1.1	1.1	0.1	2.2	18.8	5.0	1.1	6.1
3/1	477	477	85	0	2	1.3	0.9	0.1	2.3	17.2	7.0	0.9	8.0
4/1	267	267	112	0	7	1.6	0.5	0.0	2.2	29.0	4.3	0.5	4.9
5/1	320	320	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	389	389	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	308	308	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 31.5
PRC Over All Lanes (%): 31.5

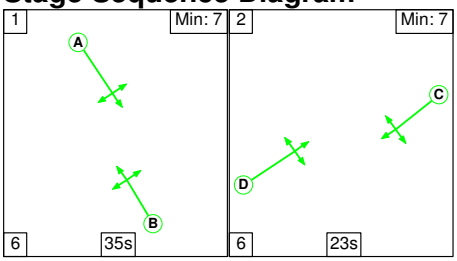
Total Delay for Signalled Lanes (pcuHr): 8.96
Total Delay Over All Lanes(pcuHr): 8.96

Cycle Time (s): 70

Full Input Data And Results

Scenario 7: 'AM Base+Com+Dev 2032' (FG7: 'AM Base+Com+Dev 2032', Plan 1: 'Network Control Plan 1')

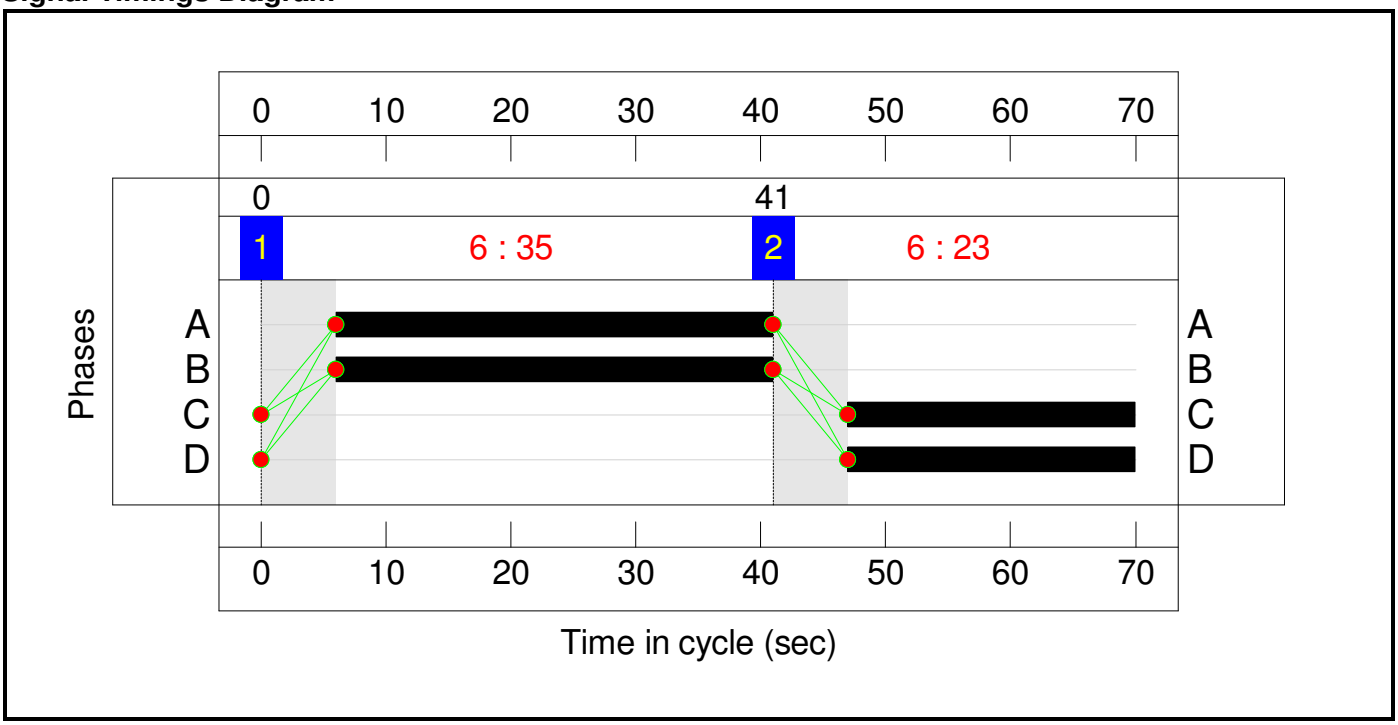
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	35	23
Change Point	0	41

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.3%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**71.3%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	23	-	397	1764:1791	569	69.7%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	35	-	420	1883	589	71.3%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	35	-	396	1864	580	68.3%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	23	-	276	1774	551	50.1%
5/1		U	N/A	N/A	-		-	-	-	172	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	266	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	553	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**423**	**41**	**12**	**5.9**	**3.9**	**0.2**	**10.0**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**423**	**41**	**12**	**5.9**	**3.9**	**0.2**	**10.0**	**-**	**-**	**-**	**-**
1/2+1/1	397	397	182	41	0	2.0	1.1	-	3.1	28.0	4.4	1.1	5.5
2/1	420	420	40	0	2	1.4	1.2	0.0	2.6	22.4	5.6	1.2	6.8
3/1	396	396	69	0	2	1.2	1.1	0.1	2.3	21.0	4.8	1.1	5.9
4/1	276	276	132	0	8	1.4	0.5	0.1	2.0	25.8	4.1	0.5	4.6
5/1	172	172	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	498	498	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	266	266	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	553	553	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 26.3
PRC Over All Lanes (%): 26.3

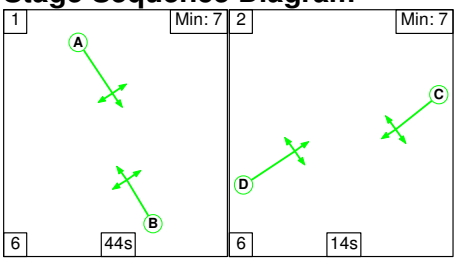
Total Delay for Signalled Lanes (pcuHr): 9.99
Total Delay Over All Lanes(pcuHr): 9.99

Cycle Time (s): 70

Full Input Data And Results

Scenario 8: 'PM Base+Com+Dev 2032' (FG8: 'PM Base+Com+Dev 2032', Plan 1: 'Network Control Plan 1')

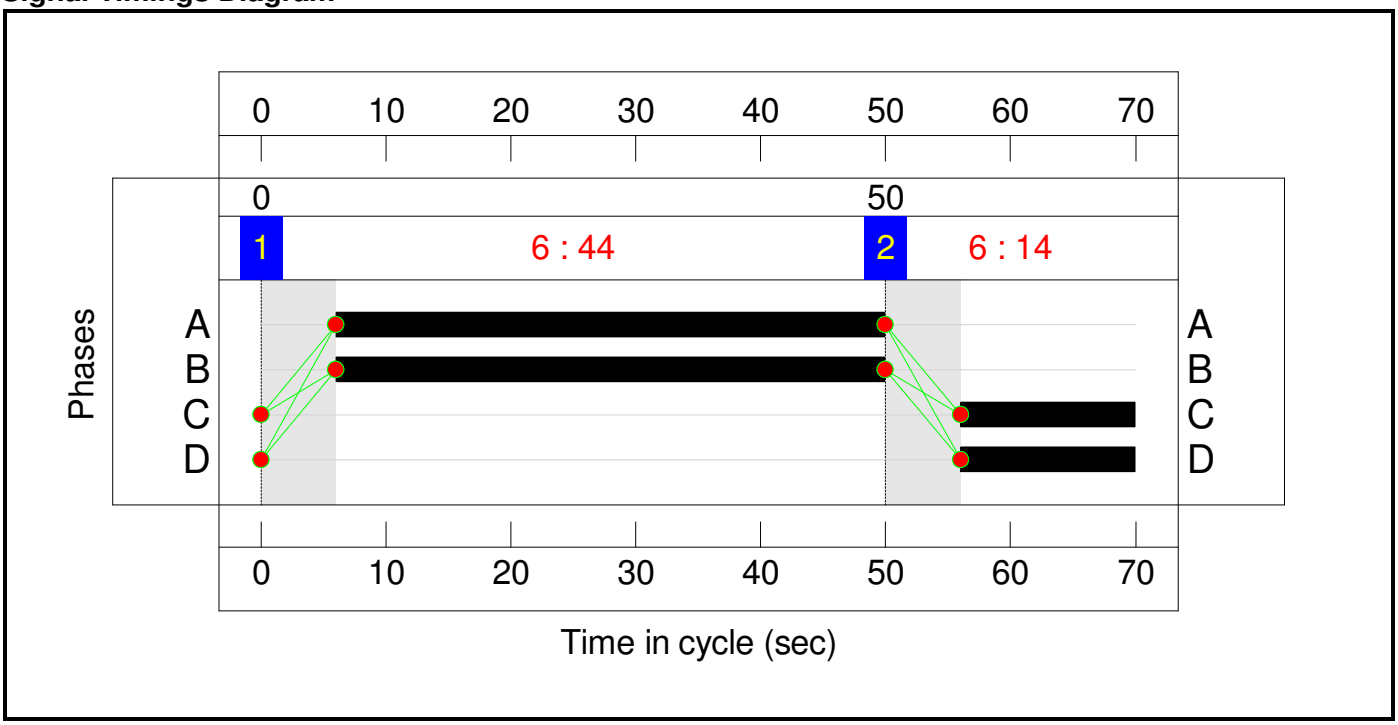
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	44	14
Change Point	0	50

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**96.6%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**96.6%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	14	-	315	1787:1791	337	93.4%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	44	-	584	1867	628	93.0%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	44	-	640	1817	830	77.1%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	14	-	363	1785	376	96.6%
5/1		U	N/A	N/A	-		-	-	-	478	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	482	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	379	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	563	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**446**	**36**	**104**	**7.9**	**18.8**	**0.4**	**27.1**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**446**	**36**	**104**	**7.9**	**18.8**	**0.4**	**27.1**	**-**	**-**	**-**	**-**
1/2+1/1	315	315	135	36	0	2.2	4.9	-	7.1	80.9	4.5	4.9	9.4
2/1	584	584	104	0	19	1.2	5.3	0.1	6.7	41.4	6.7	5.3	12.0
3/1	640	640	116	0	4	1.8	1.7	0.1	3.6	20.0	10.1	1.7	11.8
4/1	363	363	90	0	82	2.7	6.9	0.2	9.8	97.1	7.0	6.9	13.8
5/1	478	478	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	482	482	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	379	379	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	563	563	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): -7.4
PRC Over All Lanes (%): -7.4

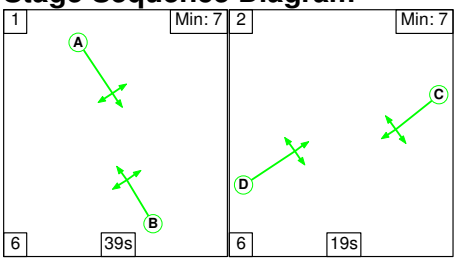
Total Delay for Signalled Lanes (pcuHr): 27.14
Total Delay Over All Lanes(pcuHr): 27.14

Cycle Time (s): 70

Full Input Data And Results

Scenario 9: 'Sat Base+Com+Dev 2032' (FG9: 'Sat Base+Com+Dev 2032', Plan 1: 'Network Control Plan 1')

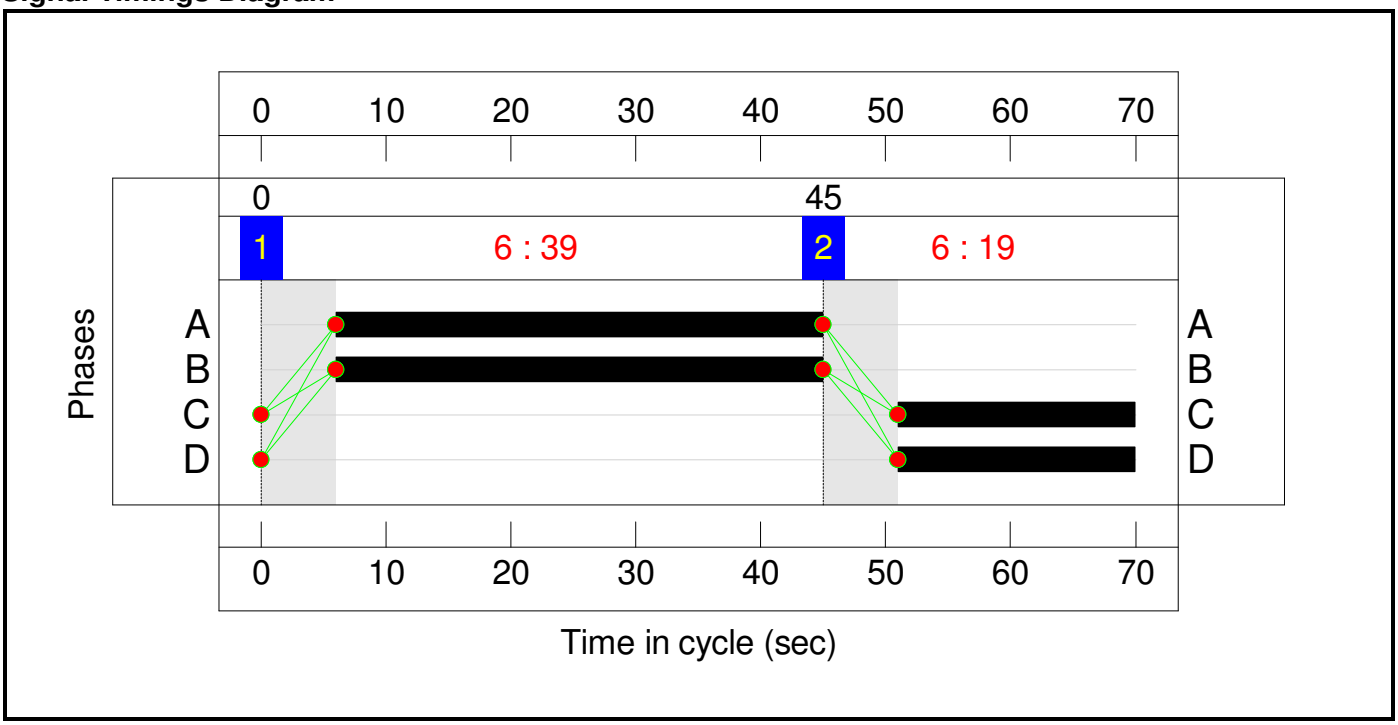
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	39	19
Change Point	0	45

Signal Timings Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**68.4%**
A5 Holyhead Road/A5025/B4545 Station Road	-	-	**N/A**	-	-		-	-	-	-	-	-	**68.4%**
1/2+1/1	A5025 Left Ahead Right	O+U	N/A	N/A	C		1	19	-	263	1784:1791	410	64.1%
2/1	A5 South Right Left Ahead	O	N/A	N/A	B		1	39	-	420	1853	614	68.4%
3/1	A5 North Left Ahead Right	O	N/A	N/A	A		1	39	-	477	1828	730	65.4%
4/1	B4545 Station Rd Ahead Right Left	O	N/A	N/A	D		1	19	-	267	1782	509	52.4%
5/1		U	N/A	N/A	-		-	-	-	320	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	389	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	308	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**382**	**37**	**13**	**5.3**	**3.4**	**0.2**	**9.0**	**-**	**-**	**-**	**-**
A5 Holyhead Road/A5025/B4545 Station Road	**-**	**-**	**382**	**37**	**13**	**5.3**	**3.4**	**0.2**	**9.0**	**-**	**-**	**-**	**-**
1/2+1/1	263	263	104	37	0	1.5	0.9	-	2.3	31.9	3.1	0.9	4.0
2/1	420	420	81	0	4	1.1	1.1	0.1	2.2	18.8	5.0	1.1	6.1
3/1	477	477	85	0	2	1.3	0.9	0.1	2.3	17.2	7.0	0.9	8.0
4/1	267	267	112	0	7	1.6	0.5	0.0	2.2	29.0	4.3	0.5	4.9
5/1	320	320	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	389	389	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	308	308	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1

PRC for Signalled Lanes (%): 31.5
PRC Over All Lanes (%): 31.5

Total Delay for Signalled Lanes (pcuHr): 8.96
Total Delay Over All Lanes(pcuHr): 8.96

Cycle Time (s): 70

Appendix D – Revised TRICS Analysis

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : J - HOLIDAY ACCOMMODATION
VEHICLES

Selected regions and areas:
02 SOUTH EAST
WS WEST SUSSEX 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of units
Actual Range: 1792 to 1792 (units:)
Range Selected by User: 1 to 9700 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/89 to 29/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:
Friday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual count 1 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Edge of Town Centre 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
No Sub Category 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:
D2 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:
10,001 to 15,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
75,001 to 100,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
0.6 to 1.0 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:
Yes 1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 WS-03-J-01 BUTLINS, BOGNOR REGIS WEST SUSSEX
UPPER BOGNOR ROAD

BOGNOR REGIS
Edge of Town Centre
No Sub Category
Total Number of units: 1792
Survey date: FRIDAY 04/06/10 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION
VEHICLES
Calculation factor: 1 UNITS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	1792	0.025	1	1792	0.018	1	1792	0.043
08:00 - 09:00	1	1792	0.078	1	1792	0.040	1	1792	0.118
09:00 - 10:00	1	1792	0.069	1	1792	0.119	1	1792	0.188
10:00 - 11:00	1	1792	0.060	1	1792	0.176	1	1792	0.236
11:00 - 12:00	1	1792	0.086	1	1792	0.158	1	1792	0.244
12:00 - 13:00	1	1792	0.141	1	1792	0.123	1	1792	0.264
13:00 - 14:00	1	1792	0.174	1	1792	0.128	1	1792	0.302
14:00 - 15:00	1	1792	0.148	1	1792	0.081	1	1792	0.229
15:00 - 16:00	1	1792	0.109	1	1792	0.056	1	1792	0.165
16:00 - 17:00	1	1792	0.080	1	1792	0.088	1	1792	0.168
17:00 - 18:00	1	1792	0.062	1	1792	0.086	1	1792	0.148
18:00 - 19:00	1	1792	0.053	1	1792	0.066	1	1792	0.119
19:00 - 20:00	1	1792	0.050	1	1792	0.041	1	1792	0.091
20:00 - 21:00	1	1792	0.017	1	1792	0.022	1	1792	0.039
21:00 - 22:00	1	1792	0.007	1	1792	0.016	1	1792	0.023
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.159			1.218			2.377

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	1792 - 1792 (units:)
Survey date date range:	01/01/89 - 29/07/12
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	27

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : J - HOLIDAY ACCOMMODATION
VEHICLES

Selected regions and areas:
04 EAST ANGLIA
NF NORFOLK 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of units
Actual Range: 848 to 848 (units:)
Range Selected by User: 1 to 9700 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/89 to 29/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:
Saturday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual count 1 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Edge of Town 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
No Sub Category 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:
Not Known 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:
25,001 to 50,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
50,001 to 75,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:
Not Known 1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 NF-03-J-01 HOLIDAY PARK, GT YARMOUTH NORFOLK
VAUXHALL PARK

GREAT YARMOUTH
Edge of Town
No Sub Category
Total Number of units: 848
Survey date: SATURDAY 25/08/90 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION
VEHICLES
Calculation factor: 1 UNITS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	848	0.011	1	848	0.035	1	848	0.046
07:00 - 08:00	1	848	0.098	1	848	0.084	1	848	0.182
08:00 - 09:00	1	848	0.101	1	848	0.151	1	848	0.252
09:00 - 10:00	1	848	0.110	1	848	0.238	1	848	0.348
10:00 - 11:00	1	848	0.146	1	848	0.193	1	848	0.339
11:00 - 12:00	1	848	0.153	1	848	0.093	1	848	0.246
12:00 - 13:00	1	848	0.146	1	848	0.045	1	848	0.191
13:00 - 14:00	1	848	0.206	1	848	0.055	1	848	0.261
14:00 - 15:00	1	848	0.152	1	848	0.108	1	848	0.260
15:00 - 16:00	1	848	0.116	1	848	0.086	1	848	0.202
16:00 - 17:00	1	848	0.169	1	848	0.067	1	848	0.236
17:00 - 18:00	1	848	0.113	1	848	0.085	1	848	0.198
18:00 - 19:00	1	848	0.106	1	848	0.088	1	848	0.194
19:00 - 20:00	1	848	0.126	1	848	0.125	1	848	0.251
20:00 - 21:00	1	848	0.110	1	848	0.079	1	848	0.189
21:00 - 22:00	1	848	0.091	1	848	0.048	1	848	0.139
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.954			1.580			3.534

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	848 - 848 (units:)
Survey date date range:	01/01/89 - 29/07/12
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	1
Number of Sundays:	0
Surveys manually removed from selection:	43

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : J - HOLIDAY ACCOMMODATION
VEHICLES

Selected regions and areas:
02 SOUTH EAST
HC HAMPSHIRE 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of units
Actual Range: 1130 to 1130 (units:)
Range Selected by User: 1 to 9700 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/89 to 29/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:
Sunday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual count 1 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Edge of Town 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
Residential Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:
Not Known 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:
1,001 to 5,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
25,001 to 50,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:
Not Known 1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 HC-03-J-02 HOLIDAY VILLAGE, NEW MILTON HAMPSHIRE
CHRISTCHURCH ROAD

NEW MILTON
Edge of Town
Residential Zone
Total Number of units: 1130
Survey date: SUNDAY 03/09/00 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION
VEHICLES
Calculation factor: 1 UNITS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	1130	0.007	1	1130	0.018	1	1130	0.025
08:00 - 09:00	1	1130	0.018	1	1130	0.030	1	1130	0.048
09:00 - 10:00	1	1130	0.035	1	1130	0.074	1	1130	0.109
10:00 - 11:00	1	1130	0.052	1	1130	0.134	1	1130	0.186
11:00 - 12:00	1	1130	0.079	1	1130	0.110	1	1130	0.189
12:00 - 13:00	1	1130	0.093	1	1130	0.084	1	1130	0.177
13:00 - 14:00	1	1130	0.058	1	1130	0.069	1	1130	0.127
14:00 - 15:00	1	1130	0.076	1	1130	0.071	1	1130	0.147
15:00 - 16:00	1	1130	0.051	1	1130	0.058	1	1130	0.109
16:00 - 17:00	1	1130	0.069	1	1130	0.048	1	1130	0.117
17:00 - 18:00	1	1130	0.044	1	1130	0.050	1	1130	0.094
18:00 - 19:00	1	1130	0.054	1	1130	0.067	1	1130	0.121
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.636			0.813			1.449

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	1130 - 1130 (units:)
Survey date date range:	01/01/89 - 29/07/12
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	1
Surveys manually removed from selection:	42

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : J - HOLIDAY ACCOMMODATION
VEHICLES

Selected regions and areas:
03 SOUTH WEST
DC DORSET 1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of units
Actual Range: 1340 to 1340 (units:)
Range Selected by User: 1 to 9700 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/89 to 29/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:
Saturday 1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:
Manual count 1 days
Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:
Free Standing (PPS6 Out of Town) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:
Out of Town 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:
Not Known 1 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:
1,001 to 5,000 1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:
5,001 to 25,000 1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:
1.1 to 1.5 1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:
Not Known 1 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 DC-03-J-01 HOLIDAY VILLAGE,NR WARMWELL DORSET
B3390

NEAR WARMWELL
Free Standing (PPS6 Out of Town)
Out of Town
Total Number of units: 1340
Survey date: SATURDAY 12/08/89 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/J - HOLIDAY ACCOMMODATION
VEHICLES
Calculation factor: 1 UNITS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate	No. Days	Ave. UNITS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	1	1340	0.025	1	1340	0.028	1	1340	0.053
09:00 - 10:00	1	1340	0.019	1	1340	0.044	1	1340	0.063
10:00 - 11:00	1	1340	0.035	1	1340	0.043	1	1340	0.078
11:00 - 12:00	1	1340	0.042	1	1340	0.029	1	1340	0.071
12:00 - 13:00	1	1340	0.040	1	1340	0.049	1	1340	0.089
13:00 - 14:00	1	1340	0.036	1	1340	0.032	1	1340	0.068
14:00 - 15:00	1	1340	0.060	1	1340	0.026	1	1340	0.086
15:00 - 16:00	1	1340	0.057	1	1340	0.028	1	1340	0.085
16:00 - 17:00	1	1340	0.054	1	1340	0.037	1	1340	0.091
17:00 - 18:00	1	1340	0.037	1	1340	0.040	1	1340	0.077
18:00 - 19:00	1	1340	0.041	1	1340	0.038	1	1340	0.079
19:00 - 20:00	1	1340	0.046	1	1340	0.027	1	1340	0.073
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.492			0.421			0.913

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	1340 - 1340 (units:)
Survey date date range:	01/01/89 - 29/07/12
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	1
Number of Sundays:	0
Surveys manually removed from selection:	42

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : A - HOTELS
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BU	BUCKINGHAMSHIRE	1 days
	HF	HERTFORDSHIRE	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
	GS	GLOUCESTERSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	1 days
09	NORTH		
	DH	DURHAM	1 days
	TV	TEES VALLEY	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of bedrooms
Actual Range:	42 to 139 (units:)
Range Selected by User:	39 to 139 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 18/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	3 days
Wednesday	5 days
Thursday	5 days
Friday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	19 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	6
Suburban Area (PPS6 Out of Centre)	8
Edge of Town	4
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	2
Residential Zone	3
Retail Zone	1
Built-Up Zone	1
Village	1
Out of Town	1
No Sub Category	10

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

Not Known	1 days
C1	18 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	4 days
10,001 to 15,000	2 days
15,001 to 20,000	3 days
20,001 to 25,000	5 days
25,001 to 50,000	3 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000	2 days
100,001 to 125,000	3 days
125,001 to 250,000	6 days
250,001 to 500,000	7 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	7 days
1.1 to 1.5	12 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	18 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 BU-06-A-01 HOLIDAY INN, AYLESBURY BUCKINGHAMSHIRE
NEW ROAD

AYLESBURY
Edge of Town
Out of Town
Total Number of bedrooms: 139
Survey date: THURSDAY 03/12/09 Survey Type: MANUAL

2 CA-06-A-02 HOTEL, CAMBRIDGE CAMBRIDGESHIRE
GONVILLE PLACE

CAMBRIDGE
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 78
Survey date: THURSDAY 13/05/04 Survey Type: MANUAL

3 CA-06-A-03 TRAVELODGE, CAMBRIDGE CAMBRIDGESHIRE
CLIFTON WAY
CAMBRIDGE LEISURE PARK
CAMBRIDGE
Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Number of bedrooms: 120
Survey date: FRIDAY 16/10/09 Survey Type: MANUAL

4 CF-06-A-03 HOLIDAY INN EXPRESS, CARDIFF CARDIFF
LONGUEIL CLOSE

CARDIFF
Edge of Town Centre
Residential Zone
Total Number of bedrooms: 87
Survey date: MONDAY 16/07/12 Survey Type: MANUAL

5 CH-06-A-01 RAMADA JARVIS, CHESTER CHESHIRE
WHITCHURCH ROAD
CHRISTLETON
CHESTER
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Number of bedrooms: 126
Survey date: WEDNESDAY 15/10/08 Survey Type: MANUAL

6 DH-06-A-01 PREMIER INN, DURHAM DURHAM
FREEMANS PLACE
MILLENNIUM PLACE
DURHAM
Edge of Town Centre
Development Zone
Total Number of bedrooms: 103
Survey date: THURSDAY 04/12/08 Survey Type: MANUAL

7 DS-06-A-01 DAYS INN, DERBY DERBYSHIRE
SIR FRANK WHITTLE RD

DERBY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 100
Survey date: WEDNESDAY 23/06/04 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 DV-06-A-02 PREMIER INN, PLYMOUTH DEVON
SUTTON ROAD
SUTTON HARBOUR
PLYMOUTH
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 107
Survey date: WEDNESDAY 21/10/09 Survey Type: MANUAL

9 GM-06-A-06 PREMIER LODGE, URMSTON GREATER MANCHESTER
TRAFFORD BOULEVARD

URMSTON
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 42
Survey date: MONDAY 07/06/04 Survey Type: MANUAL

10 GS-06-A-01 PREMIER INN, CHELTENHAM GLOUCESTERSHIRE
GLOUCESTER ROAD
ST MARKS
CHELTENHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of bedrooms: 60
Survey date: WEDNESDAY 28/04/10 Survey Type: MANUAL

11 HF-06-A-03 NOVOTEL, STEVENAGE HERTFORDSHIRE
A1(M)
KNEBWORTH PARK
STEVENAGE
Edge of Town
No Sub Category
Total Number of bedrooms: 100
Survey date: THURSDAY 08/07/04 Survey Type: MANUAL

12 LC-06-A-04 BEST WESTERN, LEYLAND LANCASHIRE
LEYLAND WAY

LEYLAND
Edge of Town
Residential Zone
Total Number of bedrooms: 93
Survey date: FRIDAY 21/10/11 Survey Type: MANUAL

13 NF-06-A-01 HOTEL, NORWICH NORFOLK
PALACE STREET
TOMBLANDS
NORWICH
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 82
Survey date: WEDNESDAY 16/05/07 Survey Type: MANUAL

14 NF-06-A-02 HOLIDAY INN, NORWICH NORFOLK
IPSWICH ROAD
HARFORD PARK
NORWICH
Edge of Town
No Sub Category
Total Number of bedrooms: 119
Survey date: THURSDAY 30/09/10 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 TV-06-A-02 HOTEL, MIDDLESBROUGH TEES VALLEY
MARTON ROAD

MIDDLESBOROUGH
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 74
Survey date: FRIDAY 18/12/09 Survey Type: MANUAL

16 TW-06-A-01 PREMIER TRAV. INN, NEWCASTLE TYNE & WEAR
CITY ROAD
QUAYSIDE
NEWCASTLE
Suburban Area (PPS6 Out of Centre)
Development Zone
Total Number of bedrooms: 82
Survey date: TUESDAY 26/04/05 Survey Type: MANUAL

17 WM-06-A-04 PURPLE HOTEL, BIRMINGHAM WEST MIDLANDS
CUCKOO ROAD
NECHELLS
BIRMINGHAM
Suburban Area (PPS6 Out of Centre)
Retail Zone
Total Number of bedrooms: 90
Survey date: TUESDAY 25/11/08 Survey Type: MANUAL

18 WS-06-A-03 EXPRESS BY HOL. INN, CRAWLEY WEST SUSSEX
HASLETT AVENUE EAST

CRAWLEY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 74
Survey date: MONDAY 07/12/09 Survey Type: MANUAL

19 WY-06-A-01 EXPRESS BY HOL. INN, BRADFORD WEST YORKSHIRE
THE LEISURE EXCHANGE

BRADFORD
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 120
Survey date: TUESDAY 17/05/05 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

VEHICLES

Calculation factor: 1 BEDRMS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	19	95	0.080	19	95	0.143	19	95	0.223
08:00 - 09:00	19	95	0.159	19	95	0.217	19	95	0.376
09:00 - 10:00	19	95	0.148	19	95	0.153	19	95	0.301
10:00 - 11:00	19	95	0.109	19	95	0.119	19	95	0.228
11:00 - 12:00	19	95	0.100	19	95	0.114	19	95	0.214
12:00 - 13:00	19	95	0.098	19	95	0.097	19	95	0.195
13:00 - 14:00	19	95	0.092	19	95	0.099	19	95	0.191
14:00 - 15:00	19	95	0.090	19	95	0.110	19	95	0.200
15:00 - 16:00	19	95	0.114	19	95	0.114	19	95	0.228
16:00 - 17:00	19	95	0.121	19	95	0.109	19	95	0.230
17:00 - 18:00	19	95	0.174	19	95	0.118	19	95	0.292
18:00 - 19:00	19	95	0.158	19	95	0.106	19	95	0.264
19:00 - 20:00	17	95	0.187	17	95	0.124	17	95	0.311
20:00 - 21:00	17	95	0.086	17	95	0.072	17	95	0.158
21:00 - 22:00	13	98	0.063	13	98	0.068	13	98	0.131
22:00 - 23:00	2	89	0.096	2	89	0.107	2	89	0.203
23:00 - 24:00	1	74	0.014	1	74	0.000	1	74	0.014
Total Rates:			1.889			1.870			3.759

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	42 - 139 (units:)
Survey date date range:	01/01/04 - 18/07/12
Number of weekdays (Monday-Friday):	19
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : A - HOTELS
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	2 days
	KC	KENT	1 days
03	SOUTH WEST		
	DC	DORSET	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of bedrooms
Actual Range: 15 to 126 (units:)
Range Selected by User: 10 to 200 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/01 to 18/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday	5 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	2
Free Standing (PPS6 Out of Town)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Out of Town	1
No Sub Category	4

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C1	5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
100,001 to 125,000	1 days
250,001 to 500,000	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	1 days
1.1 to 1.5	3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known	3 days
No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	DC-06-A-03	HOTEL, NEAR WAREHAM		DORSET
	EAST STOKE			
	BINNEGAR			
	NEAR WAREHAM			
	Free Standing (PPS6 Out of Town)			
	No Sub Category			
	Total Number of bedrooms:		15	
	Survey date: SATURDAY		21/09/02	Survey Type: MANUAL
2	HC-06-A-05	TRAVEL INN, SOUTHAMPTON		HAMPSHIRE
	M27 WESTBOUND			
	ROWNHAMS			
	SOUTHAMPTON			
	Edge of Town			
	No Sub Category			
	Total Number of bedrooms:		39	
	Survey date: SATURDAY		20/07/02	Survey Type: MANUAL
3	HC-06-A-06	HOTEL, SOUTHAMPTON		HAMPSHIRE
	GRANGE ROAD			
	HEDGE END			
	SOUTHAMPTON			
	Edge of Town			
	No Sub Category			
	Total Number of bedrooms:		56	
	Survey date: SATURDAY		07/12/02	Survey Type: MANUAL
4	KC-06-A-01	RAMADA HOTEL, NR MAIDSTONE		KENT
	ASHFORD ROAD			
	HOLLINGBOURNE			
	NEAR MAIDSTONE			
	Free Standing (PPS6 Out of Town)			
	Out of Town			
	Total Number of bedrooms:		126	
	Survey date: SATURDAY		15/06/02	Survey Type: MANUAL
5	WM-06-A-02	HOTEL, COVENTRY		WEST MIDLANDS
	ST NICHOLAS STREET			
	DRAPER'S FIELD			
	COVENTRY			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Number of bedrooms:		26	
	Survey date: SATURDAY		18/02/06	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

VEHICLES

Calculation factor: 1 BEDRMS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate	No. Days	Ave. BEDRMS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	126	0.111	1	126	0.048	1	126	0.159
07:00 - 08:00	5	52	0.080	5	52	0.103	5	52	0.183
08:00 - 09:00	5	52	0.145	5	52	0.176	5	52	0.321
09:00 - 10:00	5	52	0.187	5	52	0.198	5	52	0.385
10:00 - 11:00	5	52	0.187	5	52	0.267	5	52	0.454
11:00 - 12:00	5	52	0.210	5	52	0.336	5	52	0.546
12:00 - 13:00	5	52	0.172	5	52	0.153	5	52	0.325
13:00 - 14:00	5	52	0.252	5	52	0.137	5	52	0.389
14:00 - 15:00	5	52	0.195	5	52	0.168	5	52	0.363
15:00 - 16:00	5	52	0.172	5	52	0.137	5	52	0.309
16:00 - 17:00	5	52	0.256	5	52	0.172	5	52	0.428
17:00 - 18:00	5	52	0.317	5	52	0.160	5	52	0.477
18:00 - 19:00	5	52	0.302	5	52	0.172	5	52	0.474
19:00 - 20:00	2	76	0.250	2	76	0.178	2	76	0.428
20:00 - 21:00	2	76	0.230	2	76	0.171	2	76	0.401
21:00 - 22:00	1	126	0.119	1	126	0.095	1	126	0.214
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.185			2.671			5.856

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	15 - 126 (units:)
Survey date date range:	01/01/01 - 18/07/12
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	5
Number of Sundays:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : A - HOTELS
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BU	BUCKINGHAMSHIRE	1 days
	HF	HERTFORDSHIRE	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
	GS	GLOUCESTERSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	2 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	2 days
	LC	LANCASHIRE	1 days
09	NORTH		
	DH	DURHAM	1 days
	TV	TEES VALLEY	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	1 days
	WR	WREXHAM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of bedrooms
Actual Range:	24 to 181 (units:)
Range Selected by User:	42 to 139 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 18/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	4 days
Wednesday	5 days
Thursday	7 days
Friday	4 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	23 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	7
Suburban Area (PPS6 Out of Centre)	10
Edge of Town	4
Neighbourhood Centre (PPS6 Local Centre)	1
Free Standing (PPS6 Out of Town)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	2
Residential Zone	5
Retail Zone	1
Built-Up Zone	2
Village	1
Out of Town	2
No Sub Category	10

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

Not Known	1 days
C1	22 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	1 days
5,001 to 10,000	4 days
10,001 to 15,000	2 days
15,001 to 20,000	3 days
20,001 to 25,000	8 days
25,001 to 50,000	3 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000	3 days
100,001 to 125,000	3 days
125,001 to 250,000	6 days
250,001 to 500,000	8 days
500,001 or More	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	10 days
1.1 to 1.5	13 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	22 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

OFF-LINE VERSION Curtins Oxford Court Manchester Licence No: 148301

RANK ORDER for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

VEHICLES

Ranking Type: TOTALS Time Range: 16:00-17:00
15th Percentile = No. 20
85th Percentile = No. 4

Median Values
Arrivals: 0.084
Departures: 0.121
Totals: 0.205

Rank	Site-Ref	Description	Area	BEDRMS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
1	DH-06-A-01	PREMIER INN, DURHAM	DURHAM	103	Thu	04/12/08	0.262	0.223	0.485	
2	NF-06-A-02	HOLIDAY INN, NORWICH	NORFOLK	119	Thu	30/09/10	0.185	0.244	0.429	
3	GM-06-A-06	PREMIER LODGE, URMSTON	GREATER MANCHESTER	42	Mon	07/06/04	0.238	0.167	0.405	Yes
4	WR-06-A-02	HOTEL, NEAR WREXHAM	WREXHAM	37	Thu	06/10/11	0.216	0.162	0.378	
5	WM-06-A-03	HOTEL, COVENTRY	WEST MIDLANDS	31	Thu	27/09/07	0.226	0.129	0.355	
6	HF-06-A-03	NOVOTEL, STEVENAGE	HERTFORDSHIRE	100	Thu	08/07/04	0.150	0.200	0.350	
7	NF-06-A-01	HOTEL, NORWICH	NORFOLK	82	Wed	16/05/07	0.110	0.232	0.342	
8	BU-06-A-01	HOLIDAY INN, AYLESBURY	BUCKINGHAMSHIRE	139	Thu	03/12/09	0.180	0.151	0.331	
9	LC-06-A-04	BEST WESTERN, LEYLAND	LANCASHIRE	93	Fri	21/10/11	0.151	0.108	0.259	
10	WY-06-A-02	HOTEL, LEEDS	WEST YORKSHIRE	24	Fri	11/06/10	0.125	0.125	0.250	
11	TW-06-A-01	PREMIER TRAV. INN, NEWCA	TYNE & WEAR	82	Tue	26/04/05	0.159	0.073	0.232	
12	DV-06-A-02	PREMIER INN, PLYMOUTH	DEVON	107	Wed	21/10/09	0.084	0.121	0.205	
13	WM-06-A-04	PURPLE HOTEL, BIRMINGHAM	WEST MIDLANDS	90	Tue	25/11/08	0.133	0.044	0.177	
14	CH-06-A-01	RAMADA JARVIS, CHESTER	CHESHIRE	126	Wed	15/10/08	0.079	0.087	0.166	
15	CA-06-A-02	HOTEL, CAMBRIDGE	CAMBRIDGESHIRE	78	Thu	13/05/04	0.038	0.115	0.153	
16	WS-06-A-03	EXPRESS BY HOL. INN, CRA	WEST SUSSEX	74	Mon	07/12/09	0.081	0.068	0.149	
17	CF-06-A-03	HOLIDAY INN EXPRESS, CAR	CARDIFF	87	Mon	16/07/12	0.103	0.023	0.126	
18	CA-06-A-03	TRAVELODGE, CAMBRIDGE	CAMBRIDGESHIRE	120	Fri	16/10/09	0.058	0.067	0.125	
19	GS-06-A-01	PREMIER INN, CHELTENHAM	GLOUCESTERSHIRE	60	Wed	28/04/10	0.083	0.033	0.116	
20	DS-06-A-01	DAYS INN, DERBY	DERBYSHIRE	100	Wed	23/06/04	0.080	0.030	0.110	
21	TV-06-A-02	HOTEL, MIDDLESBROUGH	TEES VALLEY	74	Fri	18/12/09	0.095	0.014	0.109	
22	GM-06-A-07	TRAVELODGE, MANCHESTER	GREATER MANCHESTER	181	Tue	25/05/04	0.055	0.033	0.088	
23	WY-06-A-01	EXPRESS BY HOL. INN, BRA	WEST YORKSHIRE	120	Tue	17/05/05	0.050	0.017	0.067	

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
Category : A - HOTELS
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BU	BUCKINGHAMSHIRE	1 days
	HF	HERTFORDSHIRE	1 days
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
	GS	GLOUCESTERSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	2 days
	NF	NORFOLK	2 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	WY	WEST YORKSHIRE	1 days
08	NORTH WEST		
	CH	CHESHIRE	1 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	1 days
09	NORTH		
	DH	DURHAM	1 days
	TV	TEES VALLEY	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of bedrooms
Actual Range:	42 to 139 (units:)
Range Selected by User:	42 to 139 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 18/07/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	3 days
Tuesday	3 days
Wednesday	5 days
Thursday	5 days
Friday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	19 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	6
Suburban Area (PPS6 Out of Centre)	8
Edge of Town	4
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	2
Residential Zone	3
Retail Zone	1
Built-Up Zone	1
Village	1
Out of Town	1
No Sub Category	10

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

Not Known	1 days
C1	18 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	4 days
10,001 to 15,000	2 days
15,001 to 20,000	3 days
20,001 to 25,000	5 days
25,001 to 50,000	3 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000	2 days
100,001 to 125,000	3 days
125,001 to 250,000	6 days
250,001 to 500,000	7 days
500,001 or More	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	7 days
1.1 to 1.5	12 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	1 days
No	18 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 BU-06-A-01 HOLIDAY INN, AYLESBURY BUCKINGHAMSHIRE
NEW ROAD

AYLESBURY
Edge of Town
Out of Town
Total Number of bedrooms: 139
Survey date: THURSDAY 03/12/09 Survey Type: MANUAL

2 CA-06-A-02 HOTEL, CAMBRIDGE CAMBRIDGESHIRE
GONVILLE PLACE

CAMBRIDGE
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 78
Survey date: THURSDAY 13/05/04 Survey Type: MANUAL

3 CA-06-A-03 TRAVELODGE, CAMBRIDGE CAMBRIDGESHIRE
CLIFTON WAY
CAMBRIDGE LEISURE PARK
CAMBRIDGE
Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total Number of bedrooms: 120
Survey date: FRIDAY 16/10/09 Survey Type: MANUAL

4 CF-06-A-03 HOLIDAY INN EXPRESS, CARDIFF CARDIFF
LONGUEIL CLOSE

CARDIFF
Edge of Town Centre
Residential Zone
Total Number of bedrooms: 87
Survey date: MONDAY 16/07/12 Survey Type: MANUAL

5 CH-06-A-01 RAMADA JARVIS, CHESTER CHESHIRE
WHITCHURCH ROAD
CHRISTLETON
CHESTER
Neighbourhood Centre (PPS6 Local Centre)
Village
Total Number of bedrooms: 126
Survey date: WEDNESDAY 15/10/08 Survey Type: MANUAL

6 DH-06-A-01 PREMIER INN, DURHAM DURHAM
FREEMANS PLACE
MILLENNIUM PLACE
DURHAM
Edge of Town Centre
Development Zone
Total Number of bedrooms: 103
Survey date: THURSDAY 04/12/08 Survey Type: MANUAL

7 DS-06-A-01 DAYS INN, DERBY DERBYSHIRE
SIR FRANK WHITTLE RD

DERBY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 100
Survey date: WEDNESDAY 23/06/04 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 DV-06-A-02 PREMIER INN, PLYMOUTH DEVON
SUTTON ROAD
SUTTON HARBOUR
PLYMOUTH
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 107
Survey date: WEDNESDAY 21/10/09 Survey Type: MANUAL

9 GM-06-A-06 PREMIER LODGE, URMSTON GREATER MANCHESTER
TRAFFORD BOULEVARD

URMSTON
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 42
Survey date: MONDAY 07/06/04 Survey Type: MANUAL

10 GS-06-A-01 PREMIER INN, CHELTENHAM GLOUCESTERSHIRE
GLOUCESTER ROAD
ST MARKS
CHELTENHAM
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of bedrooms: 60
Survey date: WEDNESDAY 28/04/10 Survey Type: MANUAL

11 HF-06-A-03 NOVOTEL, STEVENAGE HERTFORDSHIRE
A1(M)
KNEBWORTH PARK
STEVENAGE
Edge of Town
No Sub Category
Total Number of bedrooms: 100
Survey date: THURSDAY 08/07/04 Survey Type: MANUAL

12 LC-06-A-04 BEST WESTERN, LEYLAND LANCASHIRE
LEYLAND WAY

LEYLAND
Edge of Town
Residential Zone
Total Number of bedrooms: 93
Survey date: FRIDAY 21/10/11 Survey Type: MANUAL

13 NF-06-A-01 HOTEL, NORWICH NORFOLK
PALACE STREET
TOMBLANDS
NORWICH
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 82
Survey date: WEDNESDAY 16/05/07 Survey Type: MANUAL

14 NF-06-A-02 HOLIDAY INN, NORWICH NORFOLK
IPSWICH ROAD
HARFORD PARK
NORWICH
Edge of Town
No Sub Category
Total Number of bedrooms: 119
Survey date: THURSDAY 30/09/10 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 TV-06-A-02 HOTEL, MIDDLESBROUGH TEES VALLEY
MARTON ROAD

MIDDLESBOROUGH
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 74
Survey date: FRIDAY 18/12/09 Survey Type: MANUAL

16 TW-06-A-01 PREMIER TRAV. INN, NEWCASTLE TYNE & WEAR
CITY ROAD
QUAYSIDE
NEWCASTLE
Suburban Area (PPS6 Out of Centre)
Development Zone
Total Number of bedrooms: 82
Survey date: TUESDAY 26/04/05 Survey Type: MANUAL

17 WM-06-A-04 PURPLE HOTEL, BIRMINGHAM WEST MIDLANDS
CUCKOO ROAD
NECHELLS
BIRMINGHAM
Suburban Area (PPS6 Out of Centre)
Retail Zone
Total Number of bedrooms: 90
Survey date: TUESDAY 25/11/08 Survey Type: MANUAL

18 WS-06-A-03 EXPRESS BY HOL. INN, CRAWLEY WEST SUSSEX
HASLETT AVENUE EAST

CRAWLEY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of bedrooms: 74
Survey date: MONDAY 07/12/09 Survey Type: MANUAL

19 WY-06-A-01 EXPRESS BY HOL. INN, BRADFORD WEST YORKSHIRE
THE LEISURE EXCHANGE

BRADFORD
Edge of Town Centre
No Sub Category
Total Number of bedrooms: 120
Survey date: TUESDAY 17/05/05 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

OFF-LINE VERSION Curtins Oxford Court Manchester Licence No: 148301

RANK ORDER for Land Use 06 - HOTEL, FOOD & DRINK/A - HOTELS

VEHICLES

Ranking Type: TOTALS Time Range: 08:00-09:00

WARNING: Using 85th and 15th percentile highlighted trip rates in data sets of under 20 surveys is not recommended by TRICS and may be misleading.

15th Percentile = No. 16

85th Percentile = No. 4

Median Values

Arrivals: 0.110

Departures: 0.270

Totals: 0.380

Rank	Site-Ref	Description	Area	BEDRMS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
1	LC-06-A-04	BEST WESTERN, LEYLAND	LANCASHIRE	93	Fri	21/10/11	0.344	0.280	0.624	
2	NF-06-A-02	HOLIDAY INN, NORWICH	NORFOLK	119	Thu	30/09/10	0.252	0.345	0.597	
3	DH-06-A-01	PREMIER INN, DURHAM	DURHAM	103	Thu	04/12/08	0.330	0.252	0.582	
4	BU-06-A-01	HOLIDAY INN, AYLESBURY	BUCKINGHAMSHIRE	139	Thu	03/12/09	0.317	0.201	0.518	
5	NF-06-A-01	HOTEL, NORWICH	NORFOLK	82	Wed	16/05/07	0.329	0.171	0.500	
6	TV-06-A-02	HOTEL, MIDDLESBROUGH	TEES VALLEY	74	Fri	18/12/09	0.081	0.419	0.500	
7	CH-06-A-01	RAMADA JARVIS, CHESTER	CHESHIRE	126	Wed	15/10/08	0.175	0.254	0.429	
8	TW-06-A-01	PREMIER TRAV. INN, NEWCA	TYNE & WEAR	82	Tue	26/04/05	0.098	0.293	0.391	
9	GS-06-A-01	PREMIER INN, CHELTENHAM	GLOUCESTERSHIRE	60	Wed	28/04/10	0.067	0.317	0.384	
10	HF-06-A-03	NOVOTEL, STEVENAGE	HERTFORDSHIRE	100	Thu	08/07/04	0.110	0.270	0.380	
11	DV-06-A-02	PREMIER INN, PLYMOUTH	DEVON	107	Wed	21/10/09	0.103	0.262	0.365	
12	WM-06-A-04	PURPLE HOTEL, BIRMINGHAM	WEST MIDLANDS	90	Tue	25/11/08	0.178	0.156	0.334	
13	CA-06-A-02	HOTEL, CAMBRIDGE	CAMBRIDGESHIRE	78	Thu	13/05/04	0.115	0.205	0.320	
14	GM-06-A-06	PREMIER LODGE, URMSTON	GREATER MANCHESTER	42	Mon	07/06/04	0.119	0.119	0.238	Yes
15	CA-06-A-03	TRAVELODGE, CAMBRIDGE	CAMBRIDGESHIRE	120	Fri	16/10/09	0.067	0.150	0.217	
16	DS-06-A-01	DAYS INN, DERBY	DERBYSHIRE	100	Wed	23/06/04	0.010	0.170	0.180	
17	WY-06-A-01	EXPRESS BY HOL. INN, BRA	WEST YORKSHIRE	120	Tue	17/05/05	0.083	0.092	0.175	
18	CF-06-A-03	HOLIDAY INN EXPRESS, CAR	CARDIFF	87	Mon	16/07/12	0.046	0.080	0.126	
19	WS-06-A-03	EXPRESS BY HOL. INN, CRA	WEST SUSSEX	74	Mon	07/12/09	0.054	0.068	0.122	

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

05	EAST MIDLANDS		
	NR	NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS		
	WO	WORCESTERSHIRE	1 days
10	WALES		
	CM	CARMARTHENSHIRE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
Actual Range: 17 to 792 (units:)
Range Selected by User: 100 to 800 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/01 to 22/09/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday	3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	2
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3	3 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
20,001 to 25,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
125,001 to 250,000	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known	1 days
No	2 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 CM-03-A-01 DETAT./BG'LOWS,CARMARTHEN CARMARTHENSHIRE
TREVAUGHAN ROAD
TREVAUGHAN
CARMARTHEN
Edge of Town
No Sub Category
Total Number of dwellings: 17
Survey date: SATURDAY 13/09/08 Survey Type: MANUAL

2 NR-03-A-01 HOUSES, NORTHAMPTON NORTHAMPTONSHIRE
BOUGHTON GREEN ROAD
KINGSTHORPE
NORTHAMPTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 102
Survey date: SATURDAY 22/09/12 Survey Type: MANUAL

3 WO-03-A-04 MIXED HOUSES, WORCESTER WORCESTERSHIRE
MALVERN ROAD

WORCESTER
Edge of Town
Residential Zone
Total Number of dwellings: 792
Survey date: SATURDAY 25/05/02 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	304	0.031	3	304	0.095	3	304	0.126
08:00 - 09:00	3	304	0.087	3	304	0.175	3	304	0.262
09:00 - 10:00	3	304	0.144	3	304	0.225	3	304	0.369
10:00 - 11:00	3	304	0.190	3	304	0.228	3	304	0.418
11:00 - 12:00	3	304	0.228	3	304	0.220	3	304	0.448
12:00 - 13:00	3	304	0.229	3	304	0.205	3	304	0.434
13:00 - 14:00	3	304	0.233	3	304	0.233	3	304	0.466
14:00 - 15:00	3	304	0.206	3	304	0.225	3	304	0.431
15:00 - 16:00	3	304	0.186	3	304	0.192	3	304	0.378
16:00 - 17:00	3	304	0.244	3	304	0.175	3	304	0.419
17:00 - 18:00	3	304	0.233	3	304	0.189	3	304	0.422
18:00 - 19:00	3	304	0.226	3	304	0.189	3	304	0.415
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.237			2.351			4.588

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	17 - 792 (units:)
Survey date date range:	01/01/01 - 22/09/12
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	3
Number of Sundays:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	2 days
	EX	ESSEX	1 days
	HF	HERTFORDSHIRE	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	3 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	3 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	5 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	5 days
08	NORTH WEST		
	CH	CHESHIRE	4 days
	GM	GREATER MANCHESTER	3 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	3 days
	CP	CAERPHILLY	1 days
	WR	WREXHAM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of dwellings
Actual Range:	9 to 792 (units:)
Range Selected by User:	101 to 792 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/01 to 22/09/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	9 days
Tuesday	18 days
Wednesday	7 days
Thursday	14 days
Friday	11 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	59 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	4
Suburban Area (PPS6 Out of Centre)	25
Edge of Town	28
Neighbourhood Centre (PPS6 Local Centre)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	45
Out of Town	1
No Sub Category	13

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3	58 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	6 days
5,001 to 10,000	10 days
10,001 to 15,000	11 days
15,001 to 20,000	16 days
20,001 to 25,000	7 days
25,001 to 50,000	9 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	6 days
25,001 to 50,000	7 days
50,001 to 75,000	1 days
75,001 to 100,000	8 days
100,001 to 125,000	9 days
125,001 to 250,000	17 days
250,001 to 500,000	8 days
500,001 or More	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	25 days
1.1 to 1.5	32 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known	8 days
Yes	1 days
No	50 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 BD-03-A-01 SEMI DETACHED, LUTON BEDFORDSHIRE
NEW BEDFORD ROAD

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 131
Survey date: THURSDAY 08/07/04 Survey Type: MANUAL

2 BD-03-A-02 SEMI DETACHED, LUTON BEDFORDSHIRE
RIDDY LANE

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 82
Survey date: TUESDAY 06/07/04 Survey Type: MANUAL

3 CA-03-A-01 SEMI D./TERRACED, CAMBRIDGE CAMBRIDGESHIRE
FALLOWFIELD
CHESTERTON
CAMBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 124
Survey date: TUESDAY 06/02/01 Survey Type: MANUAL

4 CA-03-A-02 MIXED HOUSES, PETERBOROUGH CAMBRIDGESHIRE
THORPE ROAD

PETERBOROUGH
Edge of Town Centre
Residential Zone
Total Number of dwellings: 363
Survey date: THURSDAY 13/05/04 Survey Type: MANUAL

5 CA-03-A-04 DETACHED, PETERBOROUGH CAMBRIDGESHIRE

THORPE PARK ROAD
PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 9
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

6 CB-03-A-03 SEMI DETACHED, WORKINGTON CUMBRIA
HAWKSHEAD AVENUE

WORKINGTON
Edge of Town
Residential Zone
Total Number of dwellings: 40
Survey date: THURSDAY 20/11/08 Survey Type: MANUAL

7 CB-03-A-04 SEMI DETACHED, WORKINGTON CUMBRIA
MOORCLOSE ROAD
SALTERBACK
WORKINGTON
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: FRIDAY 24/04/09 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 CF-03-A-01 MIXED HOUSES, CARDIFF CARDIFF
VIRGIL STREET
NINIAN PARK
CARDIFF
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 222
Survey date: THURSDAY 17/10/02 Survey Type: MANUAL

9 CF-03-A-02 MIXED HOUSES, CARDIFF CARDIFF
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY 05/10/07 Survey Type: MANUAL

10 CF-03-A-03 DETACHED, CARDIFF CARDIFF
LLANTRISANT ROAD

CARDIFF
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 29
Survey date: MONDAY 08/10/07 Survey Type: MANUAL

11 CH-03-A-02 HOUSES/FLATS, CREWE CHESHIRE
SYDNEY ROAD

CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 174
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

12 CH-03-A-05 DETACHED, CREWE CHESHIRE
SYDNEY ROAD
SYDNEY
CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

13 CH-03-A-06 SEMI-DET./BUNGALOWS,CREWE CHESHIRE
CREWE ROAD

CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

14 CH-03-A-08 DETACHED, CHESTER CHESHIRE
WHITCHURCH ROAD
BOUGHTON HEATH
CHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 22/05/12 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 CP-03-A-02 SEMI DETACHED, PENGAM CAERPHILLY
THE RISE

PENGAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 41
Survey date: MONDAY 05/09/05 Survey Type: MANUAL

16 CW-03-A-01 TERRACED, PENZANCE CORNWALL
ALVERTON ROAD

PENZANCE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 13
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

17 CW-03-A-02 SEMI D./DETATCHED, TRURO CORNWALL
BOSVEAN GARDENS

TRURO
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: TUESDAY 18/09/07 Survey Type: MANUAL

18 DC-03-A-01 DETACHED, POOLE DORSET
ISAACS CLOSE

POOLE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: WEDNESDAY 16/07/08 Survey Type: MANUAL

19 DS-03-A-01 SEMI D./TERRACED, DRONFIELD DERBYSHIRE
THE AVENUE
HOLMESDALE
DRONFIELD
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 20
Survey date: THURSDAY 22/06/06 Survey Type: MANUAL

20 ES-03-A-01 MIXED HOUSES/FLATS, LEWES EAST SUSSEX
OLD MALLING WAY
SOUTH MALLING
LEWES
Edge of Town
Residential Zone
Total Number of dwellings: 491
Survey date: THURSDAY 29/03/01 Survey Type: MANUAL

21 ES-03-A-02 PRIVATE HOUSING,PEACEHAVEN EAST SUSSEX
SOUTH COAST ROAD

PEACEHAVEN
Edge of Town
Residential Zone
Total Number of dwellings: 37
Survey date: FRIDAY 18/11/11 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22 EX-03-A-01 SEMI-DET., STANFORD-LE-HOPE ESSEX
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08 Survey Type: MANUAL

23 GM-03-A-07 SEMI DETACHED, MANCHESTER GREATER MANCHESTER
MILFORD DRIVE
LEVENSHULME
MANCHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY 09/11/01 Survey Type: MANUAL

24 GM-03-A-08 SEMI DETACHED, STOCKPORT GREATER MANCHESTER
ELM TREE ROAD
LOWER BREDBURY
STOCKPORT
Edge of Town
Residential Zone
Total Number of dwellings: 247
Survey date: FRIDAY 12/10/01 Survey Type: MANUAL

25 GM-03-A-10 DETACHED/SEMI, MANCHESTER GREATER MANCHESTER
BUTT HILL DRIVE
PRESTWICH
MANCHESTER
Edge of Town
Residential Zone
Total Number of dwellings: 29
Survey date: WEDNESDAY 12/10/11 Survey Type: MANUAL

26 GS-03-A-01 SEMI D./TERRACED, GLOUCESTER GLOUCESTERSHIRE
KINGSHOLM ROAD
KINGSHOLM
GLOUCESTER
Edge of Town Centre
No Sub Category
Total Number of dwellings: 73
Survey date: TUESDAY 25/05/04 Survey Type: MANUAL

27 HF-03-A-01 MIXED HOUSES, WELWYN GC HERTFORDSHIRE
LONGCROFT LANE

WELWYN GARDEN CITY
Edge of Town Centre
Residential Zone
Total Number of dwellings: 53
Survey date: FRIDAY 06/09/02 Survey Type: MANUAL

28 LC-03-A-22 BUNGALOWS, BLACKPOOL LANCASHIRE
CLIFTON DRIVE NORTH

BLACKPOOL
Edge of Town
Residential Zone
Total Number of dwellings: 98
Survey date: TUESDAY 18/10/05 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

29 LC-03-A-29 DETACHED/SEMI D., BLACKBURN LANCASHIRE
REVIDGE ROAD
FOUR LANE ENDS
BLACKBURN
Edge of Town
Residential Zone
Total Number of dwellings: 185
Survey date: THURSDAY 10/06/04 Survey Type: MANUAL

30 LE-03-A-01 DETACHED, MELTON MOWBRAY LEICESTERSHIRE
REDWOOD AVENUE

MELTON MOWBRAY
Edge of Town
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 03/05/05 Survey Type: MANUAL

31 LN-03-A-01 MIXED HOUSES, LINCOLN LINCOLNSHIRE
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY 15/05/07 Survey Type: MANUAL

32 LN-03-A-02 MIXED HOUSES, LINCOLN LINCOLNSHIRE
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY 14/05/07 Survey Type: MANUAL

33 LN-03-A-03 SEMI DETACHED, LINCOLN LINCOLNSHIRE
ROOKERY LANE
BOULTHAM
LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 22
Survey date: TUESDAY 18/09/12 Survey Type: MANUAL

34 MS-03-A-01 TERRACED, RUNCORN MERSEYSIDE
PALACE FIELDS AVENUE

RUNCORN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 372
Survey date: THURSDAY 06/10/05 Survey Type: MANUAL

35 NT-03-A-03 SEMI DETACHED,KIRKBY-IN-ASHFD NOTTINGHAMSHIRE
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY 28/06/06 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

36 NY-03-A-01 MIXED HOUSES,NORTHALLERTON NORTH YORKSHIRE
GRAMMAR SCHOOL LANE

NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: TUESDAY 25/09/07 Survey Type: MANUAL

37 NY-03-A-03 PRIVATE HOUSING, BOROUGHBRIDGE NORTH YORKSHIRE
NEW ROW

BOROUGHBRIDGE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 14
Survey date: MONDAY 15/09/08 Survey Type: MANUAL

38 NY-03-A-05 HOUSES AND FLATS, RIPON NORTH YORKSHIRE
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: MONDAY 22/09/08 Survey Type: MANUAL

39 NY-03-A-06 BUNGALOWS/SEMI DET., BBDGE NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY 14/10/11 Survey Type: MANUAL

40 NY-03-A-07 DETACHED/SEMI, BOROBRIDGE NORTH YORKSHIRE
CRAVEN WAY

BOROUGHBRIDGE
Edge of Town
No Sub Category
Total Number of dwellings: 23
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

41 SC-03-A-03 DETACHED, EAST MOLESEY SURREY
A3050 HURST ROAD
HURST PARK
EAST MOLESEY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: TUESDAY 12/11/02 Survey Type: MANUAL

42 SF-03-A-01 SEMI DETACHED, IPSWICH SUFFOLK
A1156 FELIXSTOWE ROAD
RACECOURSE
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 77
Survey date: WEDNESDAY 23/05/07 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

43 SF-03-A-02 SEMI DET./TERRACED, IPSWICH SUFFOLK
STOKE PARK DRIVE
MAIDENHALL
IPSWICH
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY 24/05/07 Survey Type: MANUAL

44 SF-03-A-03 MIXED HOUSES, BURY ST EDMDS SUFFOLK
BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS
Edge of Town
Out of Town
Total Number of dwellings: 101
Survey date: MONDAY 15/05/06 Survey Type: MANUAL

45 SH-03-A-03 DETATCHED, SHREWSBURY SHROPSHIRE
SOMERBY DRIVE
BICTON HEATH
SHREWSBURY
Edge of Town
No Sub Category
Total Number of dwellings: 10
Survey date: FRIDAY 26/06/09 Survey Type: MANUAL

46 SH-03-A-04 TERRACED, SHREWSBURY SHROPSHIRE
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY 11/06/09 Survey Type: MANUAL

47 ST-03-A-05 TERRACED/DETACHED, STOKE STAFFORDSHIRE
WATERMEET GROVE
ETRURIA
STOKE-ON-TRENT
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 14
Survey date: WEDNESDAY 26/11/08 Survey Type: MANUAL

48 TV-03-A-01 MIXED HOUSES/FLATS, HARTLEPL TEES VALLEY
POWLETT ROAD

HARTLEPOOL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 225
Survey date: THURSDAY 14/04/05 Survey Type: MANUAL

49 TW-03-A-01 SEMI DETACHED, SUNDERLAND TYNE & WEAR
LEECHMERE ROAD
HILLVIEW
SUNDERLAND
Edge of Town
Residential Zone
Total Number of dwellings: 81
Survey date: WEDNESDAY 18/09/02 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

50 WL-03-A-01 SEMI D./TERRACED W. BASSETT WILTSHIRE
MAPLE DRIVE

WOOTTON BASSETT
Edge of Town
Residential Zone
Total Number of dwellings: 99
Survey date: MONDAY 02/10/06 Survey Type: MANUAL

51 WM-03-A-01 TERRACED, COVENTRY WEST MIDLANDS
FOLESHILL ROAD
FOLESHILL
COVENTRY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 79
Survey date: FRIDAY 03/02/06 Survey Type: MANUAL

52 WM-03-A-02 DETACHED/SEMI D., STRBRIDGE WEST MIDLANDS
HEATH STREET

STOURBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 12
Survey date: WEDNESDAY 26/04/06 Survey Type: MANUAL

53 WM-03-A-03 MIXED HOUSING, COVENTRY WEST MIDLANDS
BASELEY WAY
ROWLEYS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 84
Survey date: MONDAY 24/09/07 Survey Type: MANUAL

54 WO-03-A-01 DETACHED, BROMSGROVE WORCESTERSHIRE
MARLBOROUGH AVENUE
ASTON FIELDS
BROMSGROVE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: THURSDAY 23/06/05 Survey Type: MANUAL

55 WO-03-A-02 SEMI DETACHED, REDDITCH WORCESTERSHIRE
MEADOWHILL ROAD

REDDITCH
Edge of Town
No Sub Category
Total Number of dwellings: 48
Survey date: TUESDAY 02/05/06 Survey Type: MANUAL

56 WO-03-A-03 DETACHED, KIDDERMINSTER WORCESTERSHIRE
BLAKEBROOK
BLAKEBROOK
KIDDERMINSTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY 05/05/06 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

57 WO-03-A-04 MIXED HOUSES, WORCESTER WORCESTERSHIRE
MALVERN ROAD

WORCESTER
Edge of Town
Residential Zone
Total Number of dwellings: 792
Survey date: FRIDAY 24/05/02 Survey Type: MANUAL

58 WO-03-A-06 DET./TERRACED, BROMSGROVE WORCESTERSHIRE
ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

59 WR-03-A-01 SEMI DETACHED, WREXHAM WREXHAM
MOLD ROAD
RHOSDDU
WREXHAM
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: MONDAY 05/07/04 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	59	120	0.071	59	120	0.259	59	120	0.330
08:00 - 09:00	59	120	0.150	59	120	0.405	59	120	0.555
09:00 - 10:00	59	120	0.169	59	120	0.210	59	120	0.379
10:00 - 11:00	59	120	0.149	59	120	0.183	59	120	0.332
11:00 - 12:00	59	120	0.182	59	120	0.177	59	120	0.359
12:00 - 13:00	59	120	0.202	59	120	0.177	59	120	0.379
13:00 - 14:00	59	120	0.182	59	120	0.171	59	120	0.353
14:00 - 15:00	59	120	0.191	59	120	0.191	59	120	0.382
15:00 - 16:00	59	120	0.278	59	120	0.210	59	120	0.488
16:00 - 17:00	59	120	0.314	59	120	0.196	59	120	0.510
17:00 - 18:00	59	120	0.380	59	120	0.220	59	120	0.600
18:00 - 19:00	59	120	0.279	59	120	0.218	59	120	0.497
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.547			2.617			5.164

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	9 - 792 (units:)
Survey date date range:	01/01/01 - 22/09/12
Number of weekdays (Monday-Friday):	59
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	2 days
	EX	ESSEX	1 days
	HF	HERTFORDSHIRE	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	3 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	3 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	5 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	5 days
08	NORTH WEST		
	CH	CHESHIRE	4 days
	GM	GREATER MANCHESTER	3 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	3 days
	CP	CAERPHILLY	1 days
	WR	WREXHAM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of dwellings
Actual Range:	9 to 792 (units:)
Range Selected by User:	9 to 792 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/01 to 22/09/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	9 days
Tuesday	18 days
Wednesday	7 days
Thursday	14 days
Friday	11 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	59 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	4
Suburban Area (PPS6 Out of Centre)	25
Edge of Town	28
Neighbourhood Centre (PPS6 Local Centre)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	45
Out of Town	1
No Sub Category	13

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3	58 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	6 days
5,001 to 10,000	10 days
10,001 to 15,000	11 days
15,001 to 20,000	16 days
20,001 to 25,000	7 days
25,001 to 50,000	9 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	6 days
25,001 to 50,000	7 days
50,001 to 75,000	1 days
75,001 to 100,000	8 days
100,001 to 125,000	9 days
125,001 to 250,000	17 days
250,001 to 500,000	8 days
500,001 or More	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	25 days
1.1 to 1.5	32 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known	8 days
Yes	1 days
No	50 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 BD-03-A-01 SEMI DETACHED, LUTON BEDFORDSHIRE
NEW BEDFORD ROAD

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 131
Survey date: THURSDAY 08/07/04 Survey Type: MANUAL

2 BD-03-A-02 SEMI DETACHED, LUTON BEDFORDSHIRE
RIDDY LANE

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 82
Survey date: TUESDAY 06/07/04 Survey Type: MANUAL

3 CA-03-A-01 SEMI D./TERRACED, CAMBRIDGE CAMBRIDGESHIRE
FALLOWFIELD
CHESTERTON
CAMBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 124
Survey date: TUESDAY 06/02/01 Survey Type: MANUAL

4 CA-03-A-02 MIXED HOUSES, PETERBOROUGH CAMBRIDGESHIRE
THORPE ROAD

PETERBOROUGH
Edge of Town Centre
Residential Zone
Total Number of dwellings: 363
Survey date: THURSDAY 13/05/04 Survey Type: MANUAL

5 CA-03-A-04 DETACHED, PETERBOROUGH CAMBRIDGESHIRE

THORPE PARK ROAD
PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 9
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

6 CB-03-A-03 SEMI DETACHED, WORKINGTON CUMBRIA
HAWKSHEAD AVENUE

WORKINGTON
Edge of Town
Residential Zone
Total Number of dwellings: 40
Survey date: THURSDAY 20/11/08 Survey Type: MANUAL

7 CB-03-A-04 SEMI DETACHED, WORKINGTON CUMBRIA
MOORCLOSE ROAD
SALTERBACK
WORKINGTON
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: FRIDAY 24/04/09 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 CF-03-A-01 MIXED HOUSES, CARDIFF CARDIFF
VIRGIL STREET
NINIAN PARK
CARDIFF
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 222
Survey date: THURSDAY 17/10/02 Survey Type: MANUAL

9 CF-03-A-02 MIXED HOUSES, CARDIFF CARDIFF
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY 05/10/07 Survey Type: MANUAL

10 CF-03-A-03 DETACHED, CARDIFF CARDIFF
LLANTRISANT ROAD

CARDIFF
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 29
Survey date: MONDAY 08/10/07 Survey Type: MANUAL

11 CH-03-A-02 HOUSES/FLATS, CREWE CHESHIRE
SYDNEY ROAD

CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 174
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

12 CH-03-A-05 DETACHED, CREWE CHESHIRE
SYDNEY ROAD
SYDNEY
CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

13 CH-03-A-06 SEMI-DET./BUNGALOWS,CREWE CHESHIRE
CREWE ROAD

CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

14 CH-03-A-08 DETACHED, CHESTER CHESHIRE
WHITCHURCH ROAD
BOUGHTON HEATH
CHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 22/05/12 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 CP-03-A-02 SEMI DETACHED, PENGAM CAERPHILLY
THE RISE

PENGAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 41
Survey date: MONDAY 05/09/05 Survey Type: MANUAL

16 CW-03-A-01 TERRACED, PENZANCE CORNWALL
ALVERTON ROAD

PENZANCE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 13
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

17 CW-03-A-02 SEMI D./DETATCHED, TRURO CORNWALL
BOSVEAN GARDENS

TRURO
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: TUESDAY 18/09/07 Survey Type: MANUAL

18 DC-03-A-01 DETACHED, POOLE DORSET
ISAACS CLOSE

POOLE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: WEDNESDAY 16/07/08 Survey Type: MANUAL

19 DS-03-A-01 SEMI D./TERRACED, DRONFIELD DERBYSHIRE
THE AVENUE
HOLMESDALE
DRONFIELD
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 20
Survey date: THURSDAY 22/06/06 Survey Type: MANUAL

20 ES-03-A-01 MIXED HOUSES/FLATS, LEWES EAST SUSSEX
OLD MALLING WAY
SOUTH MALLING
LEWES
Edge of Town
Residential Zone
Total Number of dwellings: 491
Survey date: THURSDAY 29/03/01 Survey Type: MANUAL

21 ES-03-A-02 PRIVATE HOUSING,PEACEHAVEN EAST SUSSEX
SOUTH COAST ROAD

PEACEHAVEN
Edge of Town
Residential Zone
Total Number of dwellings: 37
Survey date: FRIDAY 18/11/11 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22 EX-03-A-01 SEMI-DET., STANFORD-LE-HOPE ESSEX
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08 Survey Type: MANUAL

23 GM-03-A-07 SEMI DETACHED, MANCHESTER GREATER MANCHESTER
MILFORD DRIVE
LEVENSHULME
MANCHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY 09/11/01 Survey Type: MANUAL

24 GM-03-A-08 SEMI DETACHED, STOCKPORT GREATER MANCHESTER
ELM TREE ROAD
LOWER BREDBURY
STOCKPORT
Edge of Town
Residential Zone
Total Number of dwellings: 247
Survey date: FRIDAY 12/10/01 Survey Type: MANUAL

25 GM-03-A-10 DETACHED/SEMI, MANCHESTER GREATER MANCHESTER
BUTT HILL DRIVE
PRESTWICH
MANCHESTER
Edge of Town
Residential Zone
Total Number of dwellings: 29
Survey date: WEDNESDAY 12/10/11 Survey Type: MANUAL

26 GS-03-A-01 SEMI D./TERRACED, GLOUCESTER GLOUCESTERSHIRE
KINGSHOLM ROAD
KINGSHOLM
GLOUCESTER
Edge of Town Centre
No Sub Category
Total Number of dwellings: 73
Survey date: TUESDAY 25/05/04 Survey Type: MANUAL

27 HF-03-A-01 MIXED HOUSES, WELWYN GC HERTFORDSHIRE
LONGCROFT LANE

WELWYN GARDEN CITY
Edge of Town Centre
Residential Zone
Total Number of dwellings: 53
Survey date: FRIDAY 06/09/02 Survey Type: MANUAL

28 LC-03-A-22 BUNGALOWS, BLACKPOOL LANCASHIRE
CLIFTON DRIVE NORTH

BLACKPOOL
Edge of Town
Residential Zone
Total Number of dwellings: 98
Survey date: TUESDAY 18/10/05 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

29 LC-03-A-29 DETACHED/SEMI D., BLACKBURN LANCASHIRE
REVIDGE ROAD
FOUR LANE ENDS
BLACKBURN
Edge of Town
Residential Zone
Total Number of dwellings: 185
Survey date: THURSDAY 10/06/04 Survey Type: MANUAL

30 LE-03-A-01 DETACHED, MELTON MOWBRAY LEICESTERSHIRE
REDWOOD AVENUE

MELTON MOWBRAY
Edge of Town
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 03/05/05 Survey Type: MANUAL

31 LN-03-A-01 MIXED HOUSES, LINCOLN LINCOLNSHIRE
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY 15/05/07 Survey Type: MANUAL

32 LN-03-A-02 MIXED HOUSES, LINCOLN LINCOLNSHIRE
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY 14/05/07 Survey Type: MANUAL

33 LN-03-A-03 SEMI DETACHED, LINCOLN LINCOLNSHIRE
ROOKERY LANE
BOULTHAM
LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 22
Survey date: TUESDAY 18/09/12 Survey Type: MANUAL

34 MS-03-A-01 TERRACED, RUNCORN MERSEYSIDE
PALACE FIELDS AVENUE

RUNCORN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 372
Survey date: THURSDAY 06/10/05 Survey Type: MANUAL

35 NT-03-A-03 SEMI DETACHED,KIRKBY-IN-ASHFD NOTTINGHAMSHIRE
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY 28/06/06 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

36 NY-03-A-01 MIXED HOUSES,NORTHALLERTON NORTH YORKSHIRE
GRAMMAR SCHOOL LANE

NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: TUESDAY 25/09/07 Survey Type: MANUAL

37 NY-03-A-03 PRIVATE HOUSING, BOROUGHBRIDGE NORTH YORKSHIRE
NEW ROW

BOROUGHBRIDGE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 14
Survey date: MONDAY 15/09/08 Survey Type: MANUAL

38 NY-03-A-05 HOUSES AND FLATS, RIPON NORTH YORKSHIRE
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: MONDAY 22/09/08 Survey Type: MANUAL

39 NY-03-A-06 BUNGALOWS/SEMI DET., BBDGE NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY 14/10/11 Survey Type: MANUAL

40 NY-03-A-07 DETACHED/SEMI, BOROBRIDGE NORTH YORKSHIRE
CRAVEN WAY

BOROUGHBRIDGE
Edge of Town
No Sub Category
Total Number of dwellings: 23
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

41 SC-03-A-03 DETACHED, EAST MOLESEY SURREY
A3050 HURST ROAD
HURST PARK
EAST MOLESEY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: TUESDAY 12/11/02 Survey Type: MANUAL

42 SF-03-A-01 SEMI DETACHED, IPSWICH SUFFOLK
A1156 FELIXSTOWE ROAD
RACECOURSE
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 77
Survey date: WEDNESDAY 23/05/07 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

43 SF-03-A-02 SEMI DET./TERRACED, IPSWICH SUFFOLK
STOKE PARK DRIVE
MAIDENHALL
IPSWICH
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY 24/05/07 Survey Type: MANUAL

44 SF-03-A-03 MIXED HOUSES, BURY ST EDMDS SUFFOLK
BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS
Edge of Town
Out of Town
Total Number of dwellings: 101
Survey date: MONDAY 15/05/06 Survey Type: MANUAL

45 SH-03-A-03 DETATCHED, SHREWSBURY SHROPSHIRE
SOMERBY DRIVE
BICTON HEATH
SHREWSBURY
Edge of Town
No Sub Category
Total Number of dwellings: 10
Survey date: FRIDAY 26/06/09 Survey Type: MANUAL

46 SH-03-A-04 TERRACED, SHREWSBURY SHROPSHIRE
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY 11/06/09 Survey Type: MANUAL

47 ST-03-A-05 TERRACED/DETACHED, STOKE STAFFORDSHIRE
WATERMEET GROVE
ETRURIA
STOKE-ON-TRENT
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 14
Survey date: WEDNESDAY 26/11/08 Survey Type: MANUAL

48 TV-03-A-01 MIXED HOUSES/FLATS, HARTLEPL TEES VALLEY
POWLETT ROAD

HARTLEPOOL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 225
Survey date: THURSDAY 14/04/05 Survey Type: MANUAL

49 TW-03-A-01 SEMI DETACHED, SUNDERLAND TYNE & WEAR
LEECHMERE ROAD
HILLVIEW
SUNDERLAND
Edge of Town
Residential Zone
Total Number of dwellings: 81
Survey date: WEDNESDAY 18/09/02 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

50 WL-03-A-01 SEMI D./TERRACED W. BASSETT WILTSHIRE
MAPLE DRIVE

WOOTTON BASSETT
Edge of Town
Residential Zone
Total Number of dwellings: 99
Survey date: MONDAY 02/10/06 Survey Type: MANUAL

51 WM-03-A-01 TERRACED, COVENTRY WEST MIDLANDS
FOLESHILL ROAD
FOLESHILL
COVENTRY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 79
Survey date: FRIDAY 03/02/06 Survey Type: MANUAL

52 WM-03-A-02 DETACHED/SEMI D., STRBRIDGE WEST MIDLANDS
HEATH STREET

STOURBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 12
Survey date: WEDNESDAY 26/04/06 Survey Type: MANUAL

53 WM-03-A-03 MIXED HOUSING, COVENTRY WEST MIDLANDS
BASELEY WAY
ROWLEYS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 84
Survey date: MONDAY 24/09/07 Survey Type: MANUAL

54 WO-03-A-01 DETACHED, BROMSGROVE WORCESTERSHIRE
MARLBOROUGH AVENUE
ASTON FIELDS
BROMSGROVE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: THURSDAY 23/06/05 Survey Type: MANUAL

55 WO-03-A-02 SEMI DETACHED, REDDITCH WORCESTERSHIRE
MEADOWHILL ROAD

REDDITCH
Edge of Town
No Sub Category
Total Number of dwellings: 48
Survey date: TUESDAY 02/05/06 Survey Type: MANUAL

56 WO-03-A-03 DETACHED, KIDDERMINSTER WORCESTERSHIRE
BLAKEBROOK
BLAKEBROOK
KIDDERMINSTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY 05/05/06 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

57 WO-03-A-04 MIXED HOUSES, WORCESTER WORCESTERSHIRE
MALVERN ROAD

WORCESTER
Edge of Town
Residential Zone
Total Number of dwellings: 792
Survey date: FRIDAY 24/05/02 Survey Type: MANUAL

58 WO-03-A-06 DET./TERRACED, BROMSGROVE WORCESTERSHIRE
ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

59 WR-03-A-01 SEMI DETACHED, WREXHAM WREXHAM
MOLD ROAD
RHOSDDU
WREXHAM
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: MONDAY 05/07/04 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

OFF-LINE VERSION Curtins Oxford Court Manchester Licence No: 148301

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES

Ranking Type: TOTALS Time Range: 08:00-09:00
15th Percentile = No. 50
85th Percentile = No. 10

Median Values
Arrivals: 0.153
Departures: 0.395
Totals: 0.548

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
1	WO-03-A-01	DETACHED, BROMSGROVE	WORCESTERSHIRE	10	Thu	23/06/05	0.500	0.600	1.100	
2	GM-03-A-10	DETACHED/SEMI, MANCHESTE	GREATER MANCHESTER	29	Wed	12/10/11	0.138	0.759	0.897	
3	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.317	0.537	0.854	
4	CH-03-A-05	DETACHED, CREWE	CHESHIRE	17	Tue	14/10/08	0.235	0.588	0.823	
5	WO-03-A-03	DETACHED, KIDDERMINSTER	WORCESTERSHIRE	138	Fri	05/05/06	0.203	0.543	0.746	
6	SH-03-A-04	TERRACED, SHREWSBURY	SHROPSHIRE	108	Thu	11/06/09	0.287	0.454	0.741	
7	TW-03-A-01	SEMI DETACHED, SUNDERLAN	TYNE & WEAR	81	Wed	18/09/02	0.235	0.506	0.741	
8	SF-03-A-02	SEMI DET./TERRACED, IPSW	SUFFOLK	230	Thu	24/05/07	0.243	0.491	0.734	
9	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.321	0.405	0.726	
10	SH-03-A-03	DETATCHED, SHREWSBURY	SHROPSHIRE	10	Fri	26/06/09	0.200	0.500	0.700	
11	EX-03-A-01	SEMI-DET., STANFORD-LE-H	ESSEX	237	Tue	13/05/08	0.177	0.523	0.700	
12	CB-03-A-03	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Thu	20/11/08	0.225	0.450	0.675	
13	SF-03-A-03	MIXED HOUSES, BURY ST ED	SUFFOLK	101	Mon	15/05/06	0.109	0.554	0.663	
14	CF-03-A-01	MIXED HOUSES, CARDIFF	CARDIFF	222	Thu	17/10/02	0.167	0.491	0.658	
15	LC-03-A-29	DETACHED/SEMI D., BLACKB	LANCASHIRE	185	Thu	10/06/04	0.130	0.524	0.654	
16	ST-03-A-05	TERRACED/DETACHED, STOKE	STAFFORDSHIRE	14	Wed	26/11/08	0.143	0.500	0.643	
17	CH-03-A-08	DETACHED, CHESTER	CHESHIRE	11	Tue	22/05/12	0.182	0.455	0.637	
18	LN-03-A-01	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	150	Tue	15/05/07	0.187	0.440	0.627	
19	CF-03-A-03	DETACHED, CARDIFF	CARDIFF	29	Mon	08/10/07	0.069	0.552	0.621	
20	CW-03-A-01	TERRACED, PENZANCE	CORNWALL	13	Thu	30/06/05	0.385	0.231	0.616	
21	GM-03-A-07	SEMI DETACHED, MANCHESTE	GREATER MANCHESTER	138	Fri	09/11/01	0.196	0.420	0.616	
22	CP-03-A-02	SEMI DETACHED, PENGAM	CAERPHILLY	41	Mon	05/09/05	0.195	0.415	0.610	
23	LN-03-A-02	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	186	Mon	14/05/07	0.183	0.425	0.608	
24	TV-03-A-01	MIXED HOUSES/FLATS, HART	TEES VALLEY	225	Thu	14/04/05	0.138	0.458	0.596	
25	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.113	0.465	0.578	
26	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.152	0.418	0.570	
27	BD-03-A-01	SEMI DETACHED, LUTON	BEDFORDSHIRE	131	Thu	08/07/04	0.145	0.420	0.565	
28	ES-03-A-01	MIXED HOUSES/FLATS, LEWE	EAST SUSSEX	491	Thu	29/03/01	0.151	0.409	0.560	
29	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.183	0.366	0.549	
30	CA-03-A-01	SEMI D./TERRACED, CAMBRI	CAMBRIDGESHIRE	124	Tue	06/02/01	0.153	0.395	0.548	
31	WO-03-A-06	DET./TERRACED, BROMSGROV	WORCESTERSHIRE	232	Thu	30/06/05	0.099	0.448	0.547	
32	CA-03-A-02	MIXED HOUSES, PETERBOROU	CAMBRIDGESHIRE	363	Thu	13/05/04	0.201	0.339	0.540	

OFF-LINE VERSION Curtins Oxford Court Manchester Licence No: 148301

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
33	SC-03-A-03	DETACHED, EAST MOLESEY	SURREY	54	Tue	12/11/02	0.148	0.389	0.537	
34	CF-03-A-02	MIXED HOUSES, CARDIFF	CARDIFF	196	Fri	05/10/07	0.107	0.413	0.520	
35	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.104	0.416	0.520	
36	LC-03-A-22	BUNGALOWS, BLACKPOOL	LANCASHIRE	98	Tue	18/10/05	0.173	0.337	0.510	
37	WO-03-A-04	MIXED HOUSES, WORCESTER	WORCESTERSHIRE	792	Fri	24/05/02	0.120	0.388	0.508	
38	NY-03-A-06	BUNGALOWS/SEMI DET., BBD	NORTH YORKSHIRE	115	Fri	14/10/11	0.096	0.400	0.496	
39	GM-03-A-08	SEMI DETACHED, STOCKPORT	GREATER MANCHESTER	247	Fri	12/10/01	0.113	0.377	0.490	
40	ES-03-A-02	PRIVATE HOUSING,PEACEHAV	EAST SUSSEX	37	Fri	18/11/11	0.081	0.405	0.486	Yes
41	NY-03-A-07	DETACHED/SEMI, BOROBRIDG	NORTH YORKSHIRE	23	Tue	18/10/11	0.087	0.391	0.478	
42	CH-03-A-02	HOUSES/FLATS, CREWE	CHESHIRE	174	Tue	14/10/08	0.103	0.374	0.477	
43	DC-03-A-01	DETACHED, POOLE	DORSET	51	Wed	16/07/08	0.098	0.373	0.471	
44	LE-03-A-01	DETACHED, MELTON MOWBRAY	LEICESTERSHIRE	11	Tue	03/05/05	0.091	0.364	0.455	
45	WR-03-A-01	SEMI DETACHED, WREXHAM	WREXHAM	82	Mon	05/07/04	0.085	0.366	0.451	
46	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.104	0.333	0.437	
47	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.096	0.329	0.425	
48	NT-03-A-03	SEMI DETACHED,KIRKBY-IN-	NOTTINGHAMSHIRE	166	Wed	28/06/06	0.108	0.313	0.421	
49	HF-03-A-01	MIXED HOUSES, WELWYN GC	HERTFORDSHIRE	53	Fri	06/09/02	0.113	0.302	0.415	
50	LN-03-A-03	SEMI DETACHED, LINCOLN	LINCOLNSHIRE	22	Tue	18/09/12	0.045	0.364	0.409	
51	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.071	0.333	0.404	
52	CH-03-A-06	SEMI-DET./BUNGALOWS,CREW	CHESHIRE	129	Tue	14/10/08	0.163	0.240	0.403	
53	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.123	0.260	0.383	
54	MS-03-A-01	TERRACED, RUNCORN	MERSEYSIDE	372	Thu	06/10/05	0.091	0.269	0.360	
55	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.173	0.173	0.346	
56	WM-03-A-02	DETACHED/SEMI D., STRBRI	WEST MIDLANDS	12	Wed	26/04/06	0.083	0.250	0.333	
57	CA-03-A-04	DETACHED, PETERBOROUGH	CAMBRIDGESHIRE	9	Tue	18/10/11	0.000	0.333	0.333	
58	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.200	0.100	0.300	
59	NY-03-A-03	PRIVATE HOUSING, BOROUGH	NORTH YORKSHIRE	14	Mon	15/09/08	0.143	0.143	0.286	

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : A - HOUSES PRIVATELY OWNED
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	2 days
	EX	ESSEX	1 days
	HF	HERTFORDSHIRE	1 days
	SC	SURREY	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	DC	DORSET	1 days
	GS	GLOUCESTERSHIRE	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	3 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	3 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	5 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	5 days
08	NORTH WEST		
	CH	CHESHIRE	4 days
	GM	GREATER MANCHESTER	3 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days
	TW	TYNE & WEAR	1 days
10	WALES		
	CF	CARDIFF	3 days
	CP	CAERPHILLY	1 days
	WR	WREXHAM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter:	Number of dwellings
Actual Range:	9 to 792 (units:)
Range Selected by User:	9 to 792 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/01 to 22/09/12

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	9 days
Tuesday	18 days
Wednesday	7 days
Thursday	14 days
Friday	11 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	59 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaking using machines.

Selected Locations:

Edge of Town Centre	4
Suburban Area (PPS6 Out of Centre)	25
Edge of Town	28
Neighbourhood Centre (PPS6 Local Centre)	2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	45
Out of Town	1
No Sub Category	13

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3	58 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	6 days
5,001 to 10,000	10 days
10,001 to 15,000	11 days
15,001 to 20,000	16 days
20,001 to 25,000	7 days
25,001 to 50,000	9 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	6 days
25,001 to 50,000	7 days
50,001 to 75,000	1 days
75,001 to 100,000	8 days
100,001 to 125,000	9 days
125,001 to 250,000	17 days
250,001 to 500,000	8 days
500,001 or More	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	25 days
1.1 to 1.5	32 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Not Known	8 days
Yes	1 days
No	50 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1 BD-03-A-01 SEMI DETACHED, LUTON BEDFORDSHIRE
NEW BEDFORD ROAD

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 131
Survey date: THURSDAY 08/07/04 Survey Type: MANUAL

2 BD-03-A-02 SEMI DETACHED, LUTON BEDFORDSHIRE
RIDDY LANE

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 82
Survey date: TUESDAY 06/07/04 Survey Type: MANUAL

3 CA-03-A-01 SEMI D./TERRACED, CAMBRIDGE CAMBRIDGESHIRE
FALLOWFIELD
CHESTERTON
CAMBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 124
Survey date: TUESDAY 06/02/01 Survey Type: MANUAL

4 CA-03-A-02 MIXED HOUSES, PETERBOROUGH CAMBRIDGESHIRE
THORPE ROAD

PETERBOROUGH
Edge of Town Centre
Residential Zone
Total Number of dwellings: 363
Survey date: THURSDAY 13/05/04 Survey Type: MANUAL

5 CA-03-A-04 DETACHED, PETERBOROUGH CAMBRIDGESHIRE

THORPE PARK ROAD
PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 9
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

6 CB-03-A-03 SEMI DETACHED, WORKINGTON CUMBRIA
HAWKSHEAD AVENUE

WORKINGTON
Edge of Town
Residential Zone
Total Number of dwellings: 40
Survey date: THURSDAY 20/11/08 Survey Type: MANUAL

7 CB-03-A-04 SEMI DETACHED, WORKINGTON CUMBRIA
MOORCLOSE ROAD
SALTERBACK
WORKINGTON
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: FRIDAY 24/04/09 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 CF-03-A-01 MIXED HOUSES, CARDIFF CARDIFF
VIRGIL STREET
NINIAN PARK
CARDIFF
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 222
Survey date: THURSDAY 17/10/02 Survey Type: MANUAL

9 CF-03-A-02 MIXED HOUSES, CARDIFF CARDIFF
DROPE ROAD

CARDIFF
Edge of Town
Residential Zone
Total Number of dwellings: 196
Survey date: FRIDAY 05/10/07 Survey Type: MANUAL

10 CF-03-A-03 DETACHED, CARDIFF CARDIFF
LLANTRISANT ROAD

CARDIFF
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 29
Survey date: MONDAY 08/10/07 Survey Type: MANUAL

11 CH-03-A-02 HOUSES/FLATS, CREWE CHESHIRE
SYDNEY ROAD

CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 174
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

12 CH-03-A-05 DETACHED, CREWE CHESHIRE
SYDNEY ROAD
SYDNEY
CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

13 CH-03-A-06 SEMI-DET./BUNGALOWS,CREWE CHESHIRE
CREWE ROAD

CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

14 CH-03-A-08 DETACHED, CHESTER CHESHIRE
WHITCHURCH ROAD
BOUGHTON HEATH
CHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 22/05/12 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 CP-03-A-02 SEMI DETACHED, PENGAM CAERPHILLY
THE RISE

PENGAM
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 41
Survey date: MONDAY 05/09/05 Survey Type: MANUAL

16 CW-03-A-01 TERRACED, PENZANCE CORNWALL
ALVERTON ROAD

PENZANCE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 13
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

17 CW-03-A-02 SEMI D./DETATCHED, TRURO CORNWALL
BOSVEAN GARDENS

TRURO
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: TUESDAY 18/09/07 Survey Type: MANUAL

18 DC-03-A-01 DETACHED, POOLE DORSET
ISAACS CLOSE

POOLE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: WEDNESDAY 16/07/08 Survey Type: MANUAL

19 DS-03-A-01 SEMI D./TERRACED, DRONFIELD DERBYSHIRE
THE AVENUE
HOLMESDALE
DRONFIELD
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 20
Survey date: THURSDAY 22/06/06 Survey Type: MANUAL

20 ES-03-A-01 MIXED HOUSES/FLATS, LEWES EAST SUSSEX
OLD MALLING WAY
SOUTH MALLING
LEWES
Edge of Town
Residential Zone
Total Number of dwellings: 491
Survey date: THURSDAY 29/03/01 Survey Type: MANUAL

21 ES-03-A-02 PRIVATE HOUSING,PEACEHAVEN EAST SUSSEX
SOUTH COAST ROAD

PEACEHAVEN
Edge of Town
Residential Zone
Total Number of dwellings: 37
Survey date: FRIDAY 18/11/11 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22 EX-03-A-01 SEMI-DET., STANFORD-LE-HOPE ESSEX
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08 Survey Type: MANUAL

23 GM-03-A-07 SEMI DETACHED, MANCHESTER GREATER MANCHESTER
MILFORD DRIVE
LEVENSHULME
MANCHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY 09/11/01 Survey Type: MANUAL

24 GM-03-A-08 SEMI DETACHED, STOCKPORT GREATER MANCHESTER
ELM TREE ROAD
LOWER BREDBURY
STOCKPORT
Edge of Town
Residential Zone
Total Number of dwellings: 247
Survey date: FRIDAY 12/10/01 Survey Type: MANUAL

25 GM-03-A-10 DETACHED/SEMI, MANCHESTER GREATER MANCHESTER
BUTT HILL DRIVE
PRESTWICH
MANCHESTER
Edge of Town
Residential Zone
Total Number of dwellings: 29
Survey date: WEDNESDAY 12/10/11 Survey Type: MANUAL

26 GS-03-A-01 SEMI D./TERRACED, GLOUCESTER GLOUCESTERSHIRE
KINGSHOLM ROAD
KINGSHOLM
GLOUCESTER
Edge of Town Centre
No Sub Category
Total Number of dwellings: 73
Survey date: TUESDAY 25/05/04 Survey Type: MANUAL

27 HF-03-A-01 MIXED HOUSES, WELWYN GC HERTFORDSHIRE
LONGCROFT LANE

WELWYN GARDEN CITY
Edge of Town Centre
Residential Zone
Total Number of dwellings: 53
Survey date: FRIDAY 06/09/02 Survey Type: MANUAL

28 LC-03-A-22 BUNGALOWS, BLACKPOOL LANCASHIRE
CLIFTON DRIVE NORTH

BLACKPOOL
Edge of Town
Residential Zone
Total Number of dwellings: 98
Survey date: TUESDAY 18/10/05 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

29 LC-03-A-29 DETACHED/SEMI D., BLACKBURN LANCASHIRE
REVIDGE ROAD
FOUR LANE ENDS
BLACKBURN
Edge of Town
Residential Zone
Total Number of dwellings: 185
Survey date: THURSDAY 10/06/04 Survey Type: MANUAL

30 LE-03-A-01 DETACHED, MELTON MOWBRAY LEICESTERSHIRE
REDWOOD AVENUE

MELTON MOWBRAY
Edge of Town
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 03/05/05 Survey Type: MANUAL

31 LN-03-A-01 MIXED HOUSES, LINCOLN LINCOLNSHIRE
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY 15/05/07 Survey Type: MANUAL

32 LN-03-A-02 MIXED HOUSES, LINCOLN LINCOLNSHIRE
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY 14/05/07 Survey Type: MANUAL

33 LN-03-A-03 SEMI DETACHED, LINCOLN LINCOLNSHIRE
ROOKERY LANE
BOULTHAM
LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 22
Survey date: TUESDAY 18/09/12 Survey Type: MANUAL

34 MS-03-A-01 TERRACED, RUNCORN MERSEYSIDE
PALACE FIELDS AVENUE

RUNCORN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 372
Survey date: THURSDAY 06/10/05 Survey Type: MANUAL

35 NT-03-A-03 SEMI DETACHED,KIRKBY-IN-ASHFD NOTTINGHAMSHIRE
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY 28/06/06 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

36 NY-03-A-01 MIXED HOUSES,NORTHALLERTON NORTH YORKSHIRE
GRAMMAR SCHOOL LANE

NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: TUESDAY 25/09/07 Survey Type: MANUAL

37 NY-03-A-03 PRIVATE HOUSING, BOROUGHBRIDGE NORTH YORKSHIRE
NEW ROW

BOROUGHBRIDGE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 14
Survey date: MONDAY 15/09/08 Survey Type: MANUAL

38 NY-03-A-05 HOUSES AND FLATS, RIPON NORTH YORKSHIRE
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: MONDAY 22/09/08 Survey Type: MANUAL

39 NY-03-A-06 BUNGALOWS/SEMI DET., BBDGE NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY 14/10/11 Survey Type: MANUAL

40 NY-03-A-07 DETACHED/SEMI, BOROBRIDGE NORTH YORKSHIRE
CRAVEN WAY

BOROUGHBRIDGE
Edge of Town
No Sub Category
Total Number of dwellings: 23
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

41 SC-03-A-03 DETACHED, EAST MOLESEY SURREY
A3050 HURST ROAD
HURST PARK
EAST MOLESEY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 54
Survey date: TUESDAY 12/11/02 Survey Type: MANUAL

42 SF-03-A-01 SEMI DETACHED, IPSWICH SUFFOLK
A1156 FELIXSTOWE ROAD
RACECOURSE
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 77
Survey date: WEDNESDAY 23/05/07 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

43 SF-03-A-02 SEMI DET./TERRACED, IPSWICH SUFFOLK
STOKE PARK DRIVE
MAIDENHALL
IPSWICH
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY 24/05/07 Survey Type: MANUAL

44 SF-03-A-03 MIXED HOUSES, BURY ST EDMDS SUFFOLK
BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS
Edge of Town
Out of Town
Total Number of dwellings: 101
Survey date: MONDAY 15/05/06 Survey Type: MANUAL

45 SH-03-A-03 DETATCHED, SHREWSBURY SHROPSHIRE
SOMERBY DRIVE
BICTON HEATH
SHREWSBURY
Edge of Town
No Sub Category
Total Number of dwellings: 10
Survey date: FRIDAY 26/06/09 Survey Type: MANUAL

46 SH-03-A-04 TERRACED, SHREWSBURY SHROPSHIRE
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY 11/06/09 Survey Type: MANUAL

47 ST-03-A-05 TERRACED/DETACHED, STOKE STAFFORDSHIRE
WATERMEET GROVE
ETRURIA
STOKE-ON-TRENT
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 14
Survey date: WEDNESDAY 26/11/08 Survey Type: MANUAL

48 TV-03-A-01 MIXED HOUSES/FLATS, HARTLEPL TEES VALLEY
POWLETT ROAD

HARTLEPOOL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 225
Survey date: THURSDAY 14/04/05 Survey Type: MANUAL

49 TW-03-A-01 SEMI DETACHED, SUNDERLAND TYNE & WEAR
LEECHMERE ROAD
HILLVIEW
SUNDERLAND
Edge of Town
Residential Zone
Total Number of dwellings: 81
Survey date: WEDNESDAY 18/09/02 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

50 WL-03-A-01 SEMI D./TERRACED W. BASSETT WILTSHIRE
MAPLE DRIVE

WOOTTON BASSETT
Edge of Town
Residential Zone
Total Number of dwellings: 99
Survey date: MONDAY 02/10/06 Survey Type: MANUAL

51 WM-03-A-01 TERRACED, COVENTRY WEST MIDLANDS
FOLESHILL ROAD
FOLESHILL
COVENTRY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 79
Survey date: FRIDAY 03/02/06 Survey Type: MANUAL

52 WM-03-A-02 DETACHED/SEMI D., STRBRIDGE WEST MIDLANDS
HEATH STREET

STOURBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 12
Survey date: WEDNESDAY 26/04/06 Survey Type: MANUAL

53 WM-03-A-03 MIXED HOUSING, COVENTRY WEST MIDLANDS
BASELEY WAY
ROWLEYS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 84
Survey date: MONDAY 24/09/07 Survey Type: MANUAL

54 WO-03-A-01 DETACHED, BROMSGROVE WORCESTERSHIRE
MARLBOROUGH AVENUE
ASTON FIELDS
BROMSGROVE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: THURSDAY 23/06/05 Survey Type: MANUAL

55 WO-03-A-02 SEMI DETACHED, REDDITCH WORCESTERSHIRE
MEADOWHILL ROAD

REDDITCH
Edge of Town
No Sub Category
Total Number of dwellings: 48
Survey date: TUESDAY 02/05/06 Survey Type: MANUAL

56 WO-03-A-03 DETACHED, KIDDERMINSTER WORCESTERSHIRE
BLAKEBROOK
BLAKEBROOK
KIDDERMINSTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY 05/05/06 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

57 WO-03-A-04 MIXED HOUSES, WORCESTER WORCESTERSHIRE
MALVERN ROAD

WORCESTER
Edge of Town
Residential Zone
Total Number of dwellings: 792
Survey date: FRIDAY 24/05/02 Survey Type: MANUAL

58 WO-03-A-06 DET./TERRACED, BROMSGROVE WORCESTERSHIRE
ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

59 WR-03-A-01 SEMI DETACHED, WREXHAM WREXHAM
MOLD ROAD
RHOSDDU
WREXHAM
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: MONDAY 05/07/04 Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

OFF-LINE VERSION Curtins Oxford Court Manchester Licence No: 148301

RANK ORDER for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
VEHICLES

Ranking Type: TOTALS Time Range: 09:00-10:00
15th Percentile = No. 50
85th Percentile = No. 10

Median Values
Arrivals: 0.156
Departures: 0.198
Totals: 0.354

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
1	LC-03-A-22	BUNGALOWS, BLACKPOOL	LANCASHIRE	98	Tue	18/10/05	0.429	0.265	0.694	
2	WO-03-A-02	SEMI DETACHED, REDDITCH	WORCESTERSHIRE	48	Tue	02/05/06	0.333	0.354	0.687	
3	SF-03-A-03	MIXED HOUSES, BURY ST ED	SUFFOLK	101	Mon	15/05/06	0.257	0.317	0.574	
4	WM-03-A-03	MIXED HOUSING, COVENTRY	WEST MIDLANDS	84	Mon	24/09/07	0.214	0.357	0.571	
5	WO-03-A-03	DETACHED, KIDDERMINSTER	WORCESTERSHIRE	138	Fri	05/05/06	0.239	0.319	0.558	
6	LE-03-A-01	DETACHED, MELTON MOWBRAY	LEICESTERSHIRE	11	Tue	03/05/05	0.182	0.364	0.546	
7	SC-03-A-03	DETACHED, EAST MOLESEY	SURREY	54	Tue	12/11/02	0.204	0.333	0.537	
8	CW-03-A-02	SEMI D./DETATCHED, TRURO	CORNWALL	73	Tue	18/09/07	0.192	0.329	0.521	
9	BD-03-A-02	SEMI DETACHED, LUTON	BEDFORDSHIRE	82	Tue	06/07/04	0.207	0.305	0.512	
10	WO-03-A-01	DETACHED, BROMSGROVE	WORCESTERSHIRE	10	Thu	23/06/05	0.200	0.300	0.500	
11	SF-03-A-02	SEMI DET./TERRACED, IPSW	SUFFOLK	230	Thu	24/05/07	0.248	0.248	0.496	
12	CH-03-A-05	DETACHED, CREWE	CHESHIRE	17	Tue	14/10/08	0.176	0.294	0.470	
13	CF-03-A-01	MIXED HOUSES, CARDIFF	CARDIFF	222	Thu	17/10/02	0.149	0.315	0.464	
14	CH-03-A-08	DETACHED, CHESTER	CHESHIRE	11	Tue	22/05/12	0.182	0.273	0.455	
15	CP-03-A-02	SEMI DETACHED, PENGAM	CAERPHILLY	41	Mon	05/09/05	0.268	0.171	0.439	
16	LN-03-A-02	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	186	Mon	14/05/07	0.167	0.263	0.430	
17	LN-03-A-01	MIXED HOUSES, LINCOLN	LINCOLNSHIRE	150	Tue	15/05/07	0.207	0.220	0.427	
18	ES-03-A-01	MIXED HOUSES/FLATS, LEWE	EAST SUSSEX	491	Thu	29/03/01	0.191	0.234	0.425	
19	LC-03-A-29	DETACHED/SEMI D., BLACKB	LANCASHIRE	185	Thu	10/06/04	0.195	0.227	0.422	
20	BD-03-A-01	SEMI DETACHED, LUTON	BEDFORDSHIRE	131	Thu	08/07/04	0.183	0.237	0.420	
21	WM-03-A-01	TERRACED, COVENTRY	WEST MIDLANDS	79	Fri	03/02/06	0.228	0.190	0.418	
22	WM-03-A-02	DETACHED/SEMI D., STRBRI	WEST MIDLANDS	12	Wed	26/04/06	0.083	0.333	0.416	
23	TW-03-A-01	SEMI DETACHED, SUNDERLAN	TYNE & WEAR	81	Wed	18/09/02	0.185	0.222	0.407	
24	CH-03-A-06	SEMI-DET./BUNGALOWS,CREW	CHESHIRE	129	Tue	14/10/08	0.171	0.233	0.404	
25	NT-03-A-03	SEMI DETACHED,KIRKBY-IN-	NOTTINGHAMSHIRE	166	Wed	28/06/06	0.120	0.283	0.403	
26	CW-03-A-01	TERRACED, PENZANCE	CORNWALL	13	Thu	30/06/05	0.077	0.308	0.385	
27	NY-03-A-06	BUNGALOWS/SEMI DET., BBD	NORTH YORKSHIRE	115	Fri	14/10/11	0.200	0.174	0.374	
28	DC-03-A-01	DETACHED, POOLE	DORSET	51	Wed	16/07/08	0.176	0.196	0.372	
29	GM-03-A-07	SEMI DETACHED, MANCHESTE	GREATER MANCHESTER	138	Fri	09/11/01	0.159	0.203	0.362	
30	EX-03-A-01	SEMI-DET., STANFORD-LE-H	ESSEX	237	Tue	13/05/08	0.156	0.198	0.354	
31	WR-03-A-01	SEMI DETACHED, WREXHAM	WREXHAM	82	Mon	05/07/04	0.207	0.146	0.353	
32	CB-03-A-03	SEMI DETACHED, WORKINGTO	CUMBRIA	40	Thu	20/11/08	0.150	0.200	0.350	

Rank	Site-Ref	Description	Area	DWELLS	Day	Date	Trip Rate (Sorted by Totals)			Travel Plan
							Arrivals	Departures	Totals	
33	CF-03-A-02	MIXED HOUSES, CARDIFF	CARDIFF	196	Fri	05/10/07	0.143	0.204	0.347	
34	SH-03-A-04	TERRACED, SHREWSBURY	SHROPSHIRE	108	Thu	11/06/09	0.167	0.176	0.343	
35	WL-03-A-01	SEMI D./TERRACED W. BASS	WILTSHIRE	99	Mon	02/10/06	0.121	0.222	0.343	
36	WO-03-A-04	MIXED HOUSES, WORCESTER	WORCESTERSHIRE	792	Fri	24/05/02	0.146	0.196	0.342	
37	SF-03-A-01	SEMI DETACHED, IPSWICH	SUFFOLK	77	Wed	23/05/07	0.117	0.221	0.338	
38	GM-03-A-08	SEMI DETACHED, STOCKPORT	GREATER MANCHESTER	247	Fri	12/10/01	0.130	0.206	0.336	
39	TV-03-A-01	MIXED HOUSES/FLATS, HART	TEES VALLEY	225	Thu	14/04/05	0.164	0.169	0.333	
40	CA-03-A-01	SEMI D./TERRACED, CAMBRI	CAMBRIDGESHIRE	124	Tue	06/02/01	0.169	0.161	0.330	
41	CB-03-A-04	SEMI DETACHED, WORKINGTO	CUMBRIA	82	Fri	24/04/09	0.146	0.183	0.329	
42	GS-03-A-01	SEMI D./TERRACED, GLOUCE	GLOUCESTERSHIRE	73	Tue	25/05/04	0.205	0.110	0.315	
43	CA-03-A-02	MIXED HOUSES, PETERBOROU	CAMBRIDGESHIRE	363	Thu	13/05/04	0.160	0.152	0.312	
44	CF-03-A-03	DETACHED, CARDIFF	CARDIFF	29	Mon	08/10/07	0.172	0.138	0.310	
45	GM-03-A-10	DETACHED/SEMI, MANCHESTE	GREATER MANCHESTER	29	Wed	12/10/11	0.069	0.241	0.310	
46	NY-03-A-01	MIXED HOUSES,NORTHALLERT	NORTH YORKSHIRE	52	Tue	25/09/07	0.115	0.192	0.307	
47	DS-03-A-01	SEMI D./TERRACED, DRONFI	DERBYSHIRE	20	Thu	22/06/06	0.250	0.050	0.300	
48	MS-03-A-01	TERRACED, RUNCORN	MERSEYSIDE	372	Thu	06/10/05	0.148	0.145	0.293	
49	ST-03-A-05	TERRACED/DETACHED, STOKE	STAFFORDSHIRE	14	Wed	26/11/08	0.071	0.214	0.285	
50	WO-03-A-06	DET./TERRACED, BROMSGROV	WORCESTERSHIRE	232	Thu	30/06/05	0.103	0.177	0.280	
51	NY-03-A-05	HOUSES AND FLATS, RIPON	NORTH YORKSHIRE	71	Mon	22/09/08	0.155	0.113	0.268	
52	ES-03-A-02	PRIVATE HOUSING,PEACEHAV	EAST SUSSEX	37	Fri	18/11/11	0.135	0.108	0.243	Yes
53	LN-03-A-03	SEMI DETACHED, LINCOLN	LINCOLNSHIRE	22	Tue	18/09/12	0.136	0.091	0.227	
54	CA-03-A-04	DETACHED, PETERBOROUGH	CAMBRIDGESHIRE	9	Tue	18/10/11	0.111	0.111	0.222	
55	NY-03-A-03	PRIVATE HOUSING, BOROUGH	NORTH YORKSHIRE	14	Mon	15/09/08	0.143	0.071	0.214	
56	SH-03-A-03	DETATCHED, SHREWSBURY	SHROPSHIRE	10	Fri	26/06/09	0.000	0.200	0.200	
57	CH-03-A-02	HOUSES/FLATS, CREWE	CHESHIRE	174	Tue	14/10/08	0.075	0.115	0.190	
58	NY-03-A-07	DETACHED/SEMI, BOROBRIDG	NORTH YORKSHIRE	23	Tue	18/10/11	0.174	0.000	0.174	
59	HF-03-A-01	MIXED HOUSES, WELWYN GC	HERTFORDSHIRE	53	Fri	06/09/02	0.075	0.094	0.169	

This section displays actual (not average) trip rates for each of the survey days in the selected set, and ranks them in order of relative trip rate intensity, for a given time period (or peak period irrespective of time) selected by the user. The count type and direction are both displayed just above the table, along with the rows within the table representing the 85th and 15th percentile trip rate figures (highlighted in bold within the table itself).

The table itself displays details of each individual survey, alongside arrivals, departures and totals trip rates, sorted by whichever of the three directional options has been chosen by the user. As with the preceeding trip rate calculation results table, the trip rates shown are per the calculation factor (e.g. per 100m2 GFA, per employee, per hectare, etc). Note that if the peak period option has been selected (as opposed to a specific chosen time period), the peak period for each individual survey day in the table is also displayed.