



# MetroWest+

## Portishead Branch Line (MetroWest Phase 1)

TR040011

**Applicant:** North Somerset District Council

**9.23 ExA.ISH2.D4.V1 – Appendix 5 to Applicant's Oral Case and response to Representations at the Issue Specific Hearing 2 (ISH2)**

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<b>Subject</b>	<b>Draft revised Chapter 5 of CTMP, incorporating HE SoCG analysis</b>	<b>Project Name</b>	Portishead Branch Line (MetroWest Phase 1)
<b>Attention</b>	Deadline 4 (ISH2 actions)	<b>Project No.</b>	TR040011
<b>From</b>	GW		
<b>Date</b>	14 January 2021		

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This note sets out the current draft of Chapter 5 of the Construction Traffic Management Plan (CTMP), which discusses 'Construction Traffic Generation & Impacts Assessment'. The draft in this note includes updated and augmented analysis from the initial version of the CTMP (document ref: APP-210).

It should be noted that the analysis in this note was put together as part of the development of the Statement of Common Ground (SoCG) between Highways England (HE) and the Applicant. As such, the analysis was aimed at understanding the potential impact of construction traffic on the Strategic Road Network (SRN), which, pertaining to construction of the Portishead Branch Line scheme, focuses on potential impacts on M5 Junction 19.

As well as the specific focus on the SRN, assumptions underpinning the analysis have been enhanced from those used in the initial version of the CTMP. In particular, this has introduced a more detailed understanding of the way that the construction process could make use of the compounds identified as bases for construction activity, as well as the way that the level of activity (and hence demand for traffic movements) is likely to vary over the course of the programme of construction.

### Chapter 5: Construction Traffic Generation & Impacts Assessment

#### 1. Introduction

This section assesses how much traffic will be generated throughout the construction period, drawing on the Construction Strategy and other GRIP3 deliverables. Key activities have been assessed, in particular deliveries of the material to each of the main compounds and the personnel attending both the satellite and main compounds during the construction period.

#### 2. Approach to assessment

The initial process was to look at the materials required and assess what could be brought in by rail and what would be transported by road. The road deliveries were then looked at to assess the volumes, vehicle size required and trip numbers required to bring the volume to site.

The construction programme was then assessed to establish the period over which the deliveries would be made on order to give the trips per day with the trips then distributed across the main compounds.

Secondly facilities and personnel requirements were assessed to establish the trips generated. The key focus is operatives attending every day during the period of construction, with reference to mobilisation, maintenance and management of sites. This was looked at on a compound by compound basis with the total number of trips required at each location distributed over the length of the programme.

Finally, the routes to each of the compounds were assessed to establish the key links that would be used by construction traffic and those attending site.

To complete the assessment the material delivery trips and facilities and personnel trips were attributed to each of the links to attain total trips on each of the links per day. The trips were then distributed across construction periods and working days to establish trips generated per hour, assuming a number of different site operating scenarios, in order to consider impacts on traffic at different times of the day in context.

#### 3. Overview of the transport of ballast materials

Movement of ballast materials is the most significant single transport element of the scheme. The likely traffic generation arising from the excavation and track works (for the disused section) has been detailed within the Construction Strategy (DCO Document Reference 5.4) and presented in Table 5.1.

**Table 5.1: Vehicle movements during construction**

Component	No. of vehicle movements
<b>Disused Line</b>	
Excavation	<p>It is estimated that approximately 1,200-1,800 vehicle loads will be required to remove the spoil from the disused line (based on 15,000 m<sup>3</sup> of material, converted into 22,500 tonnes of waste which divide into 20 ton loads per muckaway tipper).</p> <p>Spread over an estimated 2-3 months to complete the excavation works this will equate to approximately 40-60 vehicle movements per day – this is for excavation works only and will be subject to Contractors methodology. A full traffic management plan will be completed by the Contractor prior to construction.</p> <p>It is estimated that approximately 20-30 engineering trains are required to remove the spoil (depending on length of train permitted).</p>
Track Formation and bottom ballast	<p>At this early indicative stage it is estimated that approximately 11,500 cubic metres of Type 1 formation material and 7,000 cubic metres of bottom ballast (below sleepers) is required. Using a density of 1.9 tonnes per cubic metre for Type 1 and 1.75 tonnes per cubic metre for ballast this equates to approximately 34,500 tonnes of material. Using 20 tonne muckaway trucks, this equates to 1,500 to 2,000 vehicle movements. This results in approximately 30-40 local (sub region) vehicle movements per day for material delivery only over a 3-4 month programme.</p> <p>It is estimated that between 20-30 engineering trains would be required to deliver the new material to site (depending on length of train permitted).</p>

Ballast material movements will be concentrated at the Lodway Farm and Portbury Hundred compounds, splitting 80% of all movements evenly between them. The remaining 20% of movements are assumed to involve limited activity split fairly evenly between Clanage Road, Portishead station site, Monmouth Road and Ham Green compounds.

It should be noted that it is the intention that movements of ballast materials be accomplished by rail as much as possible, but that use of road transport may be required. As such, the illustrations in this plan reflect a worst case situation where limited rail transport is used.

#### 4. Overview of the transport of non-ballast materials and personnel

This section takes information, provided by NRIL, from the Construction Strategy (DCO Document Reference 5.4) and an indicative assessment of principal quantities to assesses how traffic could be generated throughout the construction period. The activities that have been assessed are:

- Setting up and maintenance of the compounds;
- Deliveries of the material to each of the main compounds; and
- Personnel attending both the satellite and main compounds during the construction period.

To produce the traffic impact assessment several assumptions have been made to generate the number of vehicle trips being made, based on a 30 month programme including 4 mobilisation months, 24 construction months and 6 months opening the scheme and decommissioning sites.

### Materials and Plant

Materials and plant include rail signalling systems, electric power and plant, permanent way and operational telecoms, as well as buildings other civil engineering items and plant, with key assumptions as follows:

- Rail signalling systems, electric power and plant, permanent way and operational telecoms will be brought in by road or rail;
- Materials will arrive at the main compounds from the M5; as a worst case, it is assumed this will all be from the north;
- Deliveries are assumed to be distributed across the working days over the operational duration of the compounds; this has not been assumed to be uniform, with fluctuations being based on the proportion of maximum daily movements anticipated across the period;
- It has been assumed that the piles that are proposed to be used are precast and there will be one precast pile per load; there will be one load of spoil generated by the boring of each pile; and
- For plant, it has been assumed that two dumpers will be required at the main compounds and one at the satellite compounds, and that two excavators will be required at the main compounds and one at the satellite compounds.

The result of this indicative assessment suggests a maximum of 10 road trips per day for materials and plant, for periods of greatest activity on the scheme. Daily average movements will be lower (of the order 4-5 movements more typically, even during periods of high activity).

The main compounds will receive the majority of movements, with around 30% of all movements assumed to be at Lodway Farm, 25% at Portbury Hundred, 15% each at Clanage Road and the Portishead station site, and the balance split between Monmouth Road and Ham Green compounds.

### Facilities and Personnel

Indicative figures for personnel assume that most staff will use the main compounds to for access, with only very limited staff numbers being at the smaller satellite compounds as required. As such, the split of personnel is similar to that of materials, with around 60% of all staff assumed to be accessing the scheme at Lodway Farm and Portbury Hundred (evenly split), 15% each at Clanage Road and the Portishead station site, and the balance split between Monmouth Road and Ham Green compounds.

Facilities required at each compound (such as Portacabins) will vary according to the size and use of the compound, but will be as stated in the NRIL Construction Strategy. Minimal ancillary movements are required, such as weekly or twice-weekly visits for maintenance to refill water tanks, fuel tanks etc, and cleaning compound buildings.

The total number of personnel working on the project will vary through the mobilisation, construction and decommissioning periods, with the maximum number likely to be 300 operatives (split broadly between compounds as noted above). At peak staff requirement (of 300 personnel) up to 84 staff could be accessing each of the Lodway Farm and Portbury Hundred compounds.

It is anticipated that the construction will operate a two-shift system when the activity is at its most intense, resulting in movements of staff into the sites in the early morning, a changeover mid-

afternoon and final exit later in the evening. However, at times a single shift will operate, especially in winter to largely coincide with daylight hours. The impact that specific operating hours will have on staff movements is discussed further below.

## 5. Impact on the highway

### Routes

Indicative routes to each of the compounds were assessed to establish the key links that would be used by construction traffic and those attending site. Table 5.2 shows links used to access main compounds; for clarity, only key roads are included in the table.

**Table 5.2: Highway routes and compounds**

compounds & routes		M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priory Rd (pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
<b>Materials: HGV movements to compounds - key links used</b>													
<b>Main compounds</b>		-	-	-	-	-	-	-	-	Y	Y	Y	Y
C-4	Clanage Road	Y	Y	Y	-	-	Y	-	Y	-	-	-	-
C-9	Ham Green Compound	Y	Y	Y	-	-	Y	Y	-	-	-	-	-
C-11	Monmouth Road	Y	Y	Y	-	Y	-	-	-	-	-	-	-
C-13	Lodway Farm	Y	Y	Y	-	Y	-	-	-	-	-	-	-
C-14	Portbury Hundred	Y	Y	Y	Y	-	-	-	-	-	-	-	-
C-15	Sheepway	Y	Y	Y	Y	-	-	-	-	-	-	-	-
C-16	Portishead Station Site	Y	Y	Y	Y	-	-	-	-	-	-	-	-
<b>Personnel: journeys to compounds - key links used</b>													
<b>Main compounds</b>		-	-	-	-	-	-	-	-	Y	Y	Y	Y
C-4	Clanage Road	Y	Y	Y	-	-	Y	-	Y	-	-	-	-
C-9	Ham Green Compound	Y	Y	Y	-	-	Y	Y	-	-	-	-	-
C-11	Monmouth Road	Y	Y	Y	-	Y	-	-	-	-	-	-	-
C-13	Lodway Farm	Y	Y	Y	-	Y	-	-	-	-	-	-	-
C-14	Portbury Hundred	Y	Y	Y	Y	-	-	-	-	-	-	-	-
C-15	Sheepway	Y	Y	Y	Y	-	-	-	-	-	-	-	-
C-16	Portishead Station Site	Y	Y	Y	Y	-	-	-	-	-	-	-	-
<b>Satellite and other compounds</b>		-	-	-	-	-	Y	-	-	-	-	-	Y
C-4x	Clanage Road micro-compound	Y	Y	Y	-	-	Y	-	-	-	-	-	Y
C-5	Valley UB 122m 34ch	Y	Y	Y	-	-	Y	-	-	-	-	-	Y
C-5A	Quarry UB2 122m 40ch	Y	Y	Y	-	-	Y	-	-	-	-	-	Y
C-6	Quarry UB 4 123m 23ch	Y	Y	Y	-	-	Y	-	-	-	-	-	Y
C-7	Miles Dock 124m 04ch	Y	Y	Y	-	-	Y	-	Y	-	-	-	-
C-8	Chapel Pill Farm 124m 44ch	Y	Y	Y	-	-	Y	-	Y	-	-	-	-
C-9A	Pill Viaduct	Y	Y	Y	-	-	Y	Y	-	-	-	-	-
C-10	Pill Station Top	Y	Y	Y	-	-	Y	Y	-	-	-	-	-
C-12	Avon Road	Y	Y	Y	-	-	Y	Y	-	-	-	-	-
QUB6	Quarry underbridge	Y	Y	Y	-	-	Y	-	-	-	-	-	Y
M5	M5 compound	Y	Y	Y	-	Y	-	-	-	-	-	-	-

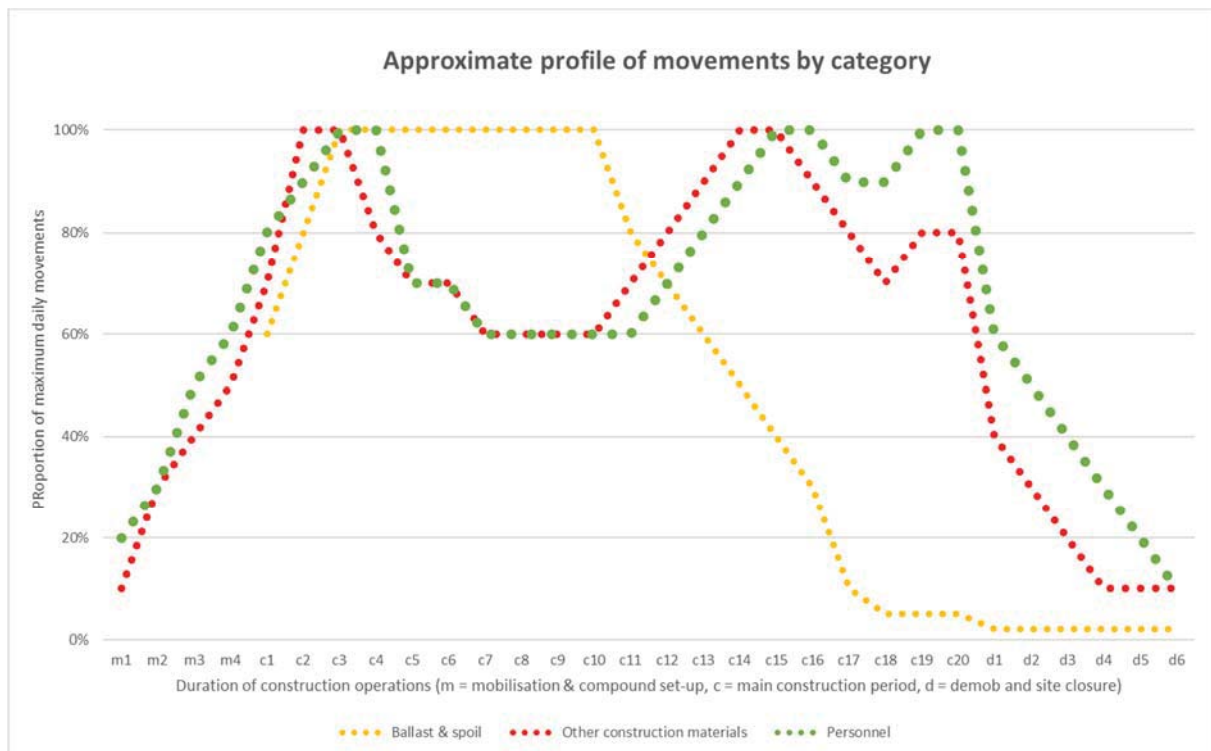
\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

### Scheme operations

To complete the assessment, movements for material delivery and personnel trips were attributed to each of the links to attain the total trips on each of the key links. Scenarios have been presented that reflect different potential operating practices during the construction period, albeit representing worst cases in the quantum of movements included.

In the first instance, Figure 5.1 shows indicative proportions of the maximum anticipated movements of ballast and spoil, other construction materials, and personnel across the construction period. This should not be considered definitive, as the contractor will ultimately determine how work will be carried out, but is a realistic potential profile. The key element taken from this profile in determining traffic impact is that the three categories of movements have potentially coinciding 100% movement expectations early in the main construction period, and this has been used in subsequent illustrations of traffic impact on key routes.

**Figure 5.1: Movements by category**



### Movements

Taking the coincidence of maximum activity as the basis, movements generated by construction activity can be allocated to compounds and routes, and cross-referenced with times of the day. As such, a series of scenarios have been derived, to illustrate the impacts, based in the first instance on the maximum period of activity with 300 operatives; with the sub-options of either a single shift per day (one start time for all) or two shifts per day (split into early and late start/finish time). Different time periods have been used, showing the changes across a notional working day. For all scenarios, ballast, spoil and other materials are assumed to move evenly across the shift, with a notional 7 movement hours during a single shift and 10 movement hours spread across two shifts.

Scenarios include:

- Daily totals – 18hr (05:00–23:00), incorporating all movements;
- Single shift per day – maximum hour total (assumed as 07:00–08:00), with 95% of operatives arriving in the maximum hour;
- Two shifts per day – maximum hour total (assumed as 05:00–06:00), with 65% of operatives arriving in the maximum hour;



- Single shift per day – AM peak hour (assumed as 08:00-09:00, after the majority of staff have arrived);
- Two shifts per day – AM peak hour (assumed as 08:00-09:00, after the majority of staff have arrived);
- Single shift per day – interpeak average hour (from 11:00 to 15:00), essentially just materials movements;
- Two shifts per day – average interpeak hour (from 11:00 to 15:00), similarly just materials movements;
- Two shifts per day – interpeak shift changeover (assumed as 13:00-14:00); assuming that 50% of staff arrive and depart in the same hour;
- Single shift per day – PM peak hour (assumed as 17:00-18:00), as such most activity has ceased; and
- Two shifts per day – PM peak hour (assumed as 17:00-18:00), with little staff movement, but materials carry on moving.

Appendix A shows tables of movements for each of the scenarios above, identifying total numbers of movements in each scenario, and allocating them to key routes.

### **M5 junction 19**

The most significant highway element identified as being used for access to the scheme is M5 junction 19. This junction provides the main access to the strategic highway network for traffic to/from Portishead and the Royal Portbury Dock, as well as Gordano Services. The junction is congested at peak times, sometime significantly.

As such, the illustrations of traffic movements associated with the scheme have been extracted for this junction and identified for each arm of the junction's gyratory. In doing this, 80% of staff movements are assumed to be to/from the M5 north of the junction, as well as all materials movements. In addition to identifying scheme related movements, comparison has been made between scheme generated movements and traffic counts at the junction, illustrating the proportion of traffic that movements associated with the scheme would represent.

Appendix B includes plots of movements at the junction for each of the operating scenarios identified above, showing all traffic (from counts) and construction movements (totals, plus HGVs for materials and staff movements separately) and the proportion this reflects of counts.

Appendix C illustrates the profile of movements across the day (5-day and 7-day averages for all traffic), with construction traffic superimposed, cross referencing the points in the day when scheme related traffic movements are at their most significant.

### **Key conclusions**

The scenarios of construction operations, traffic and timings illustrate that related movements will be at their greatest if construction is taking place with a single shift operating, where the concentration of staff members entering the site prior to the start of the shift has the most significant impact on traffic. At other times of the day, and with two-shift site operation, construction related traffic movements are relatively small.

Specific consideration of potential movements through M5 junction 19 suggests that construction traffic does not generally represent a significant proportional increase in movements. However, there



could be a problematic increase in movements if shift timings are such that the key staff movement is coincident with the AM peak. As such, it is likely that this eventuality should be avoided through organising shift timing accordingly. With two shifts, the earlier start time largely negates the potential problem.

### Appendix A

#### Detailed traffic movements

List of operating scenarios shown in tables:

- Daily totals – maximum period of activity, with 300 operatives
- Maximum hour totals – maximum period of activity, 300 operatives, single shift per day (one start time)
- Maximum hour totals – maximum period of activity, 300 operatives, two shifts per day
- AM peak hour – maximum period of activity, 300 operatives, single shift per day (one start time)
- AM peak hour – maximum period of activity, 300 operatives, two shifts per day
- IP average hour – maximum period of activity, 300 operatives, single shift per day (one start time)
- IP hour (average) – maximum period of activity, 300 operatives, two shifts per day
- IP hour (shift changeover) – maximum period of activity, 300 operatives, two shifts per day
- PM peak hour – maximum period of activity, 300 operatives, single shift per day (one start time)
- PM peak hour – maximum period of activity, 300 operatives, two shifts per day

## Daily totals – maximum period of activity, with 300 operatives

### DAILY TOTALS - maximum period of activity, with 300 operatives

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD ONE WAY - DAY

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	5	5	5	5	
C-9 Ham Green	-	3	3	-	-	3	-	3	-	-	-	-
C-11 Monmouth Road	-	4	4	-	-	4	4	-	-	-	-	-
C-13 Lodway Farm	-	25	25	-	25	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	24	24	24	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	5	5	5	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	61	61	29	25	7	4	3	5	5	5	5
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) ONE WAY - DAY

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	27	27	27	27	
C-9 Ham Green Compound	3	13	16	-	-	16	-	16	-	-	-	-
C-11 Monmouth Road	4	15	19	-	-	19	-	-	-	-	-	-
C-13 Lodway Farm	17	67	84	-	84	-	-	-	-	-	-	-
C-14 Portbury Hundred	17	67	84	84	-	-	-	-	-	-	-	-
C-15 Sheepway	2	6	8	8	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	10	41	51	51	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	2	-	-	-	-	-	-	2
C-5 Valley UB 122m 34ch	-	2	2	-	2	-	-	-	-	-	-	2
C-5A Quarry UB2 122m 40ch	-	2	2	-	2	-	-	-	-	-	-	2
C-6 Quarry UB 4 123m 23ch	-	2	2	-	2	-	-	-	-	-	-	2
C-7 Miles Dock 124m 04ch	-	2	2	-	2	-	2	-	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	2	2	-	2	-	2	-	-	-	-	-
C-9A Pill Viaduct	-	2	2	-	2	2	-	-	-	-	-	-
C-10 Pill Station Top	-	2	2	-	2	2	-	-	-	-	-	-
C-12 Avon Road	-	2	2	-	2	2	-	-	-	-	-	-
QUB6 Quarry underbridge	-	2	2	-	2	-	-	-	-	-	-	2
M5 M5 compound	-	2	2	-	2	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	53	229	282	143	86	55	25	20	27	27	27	37
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD TWO WAY - DAY

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	10	10	10	10	
C-9 Ham Green	-	6	6	-	-	6	-	6	-	-	-	-
C-11 Monmouth Road	-	8	8	-	-	8	8	-	-	-	-	-
C-13 Lodway Farm	-	50	50	-	50	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	48	48	48	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	10	10	10	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	122	122	58	50	14	8	6	10	10	10	10
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#### Personnel: cars/light vans to/from compounds - 300 operatives (maximum) TWO WAY - DAY

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	54	54	54	54	
C-9 Ham Green Compound	6	26	32	-	-	32	-	32	-	-	-	-
C-11 Monmouth Road	8	30	38	-	-	38	38	-	-	-	-	-
C-13 Lodway Farm	34	134	168	-	168	-	-	-	-	-	-	-
C-14 Portbury Hundred	34	134	168	168	-	-	-	-	-	-	-	-
C-15 Sheepway	4	12	16	16	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	20	82	102	102	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	4	-	-	-	-	-	-	4
C-5 Valley UB 122m 34ch	-	4	4	-	4	-	-	-	-	-	-	4
C-5A Quarry UB2 122m 40ch	-	4	4	-	4	-	-	-	-	-	-	4
C-6 Quarry UB 4 123m 23ch	-	4	4	-	4	-	-	-	-	-	-	4
C-7 Miles Dock 124m 04ch	-	4	4	-	4	-	4	-	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	4	4	-	4	-	4	-	-	-	-	-
C-9A Pill Viaduct	-	4	4	-	4	4	-	-	-	-	-	-
C-10 Pill Station Top	-	4	4	-	4	4	-	-	-	-	-	-
C-12 Avon Road	-	4	4	-	4	4	-	-	-	-	-	-
QUB6 Quarry underbridge	-	4	4	-	4	-	-	-	-	-	-	4
M5 M5 compound	-	4	4	-	4	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	106	458	564	286	172	110	50	40	54	54	54	74
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## Maximum hour totals – maximum period of activity, with 300 operatives, with a single shift per day (one start time)

### MAXIMUM HOUR TOTALS - maximum period of activity, with 300 operatives - SINGLE SHIFT (single start time)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD

#### ONE WAY - OPERATING HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	1	1	1	1
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	4	4	-	4	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	4	4	4	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	9	9	5	4	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time

#### ONE WAY - MAXIMUM ARRIVAL HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	26	26	26	26
C-9 Ham Green Compound	3	13	16	-	-	16	-	16	-	-	-	-
C-11 Monmouth Road	4	15	19	-	-	19	19	-	-	-	-	-
C-13 Lodway Farm	16	64	80	-	80	-	-	-	-	-	-	-
C-14 Portbury Hundred	16	64	80	80	-	-	-	-	-	-	-	-
C-15 Sheepway	2	6	8	8	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	10	39	49	49	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	2	-	-	-	-	-	-	2
C-5 Valley UB 122m 34ch	-	2	2	-	-	2	-	-	-	-	-	2
C-5A Quarry UB2 122m 40ch	-	2	2	-	-	2	-	-	-	-	-	2
C-6 Quarry UB 4 123m 23ch	-	2	2	-	-	2	-	-	-	-	-	2
C-7 Miles Dock 124m 04ch	-	2	2	-	-	2	-	2	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	2	2	-	-	2	-	2	-	-	-	-
C-9A Pill Viaduct	-	2	2	-	-	2	2	-	-	-	-	-
C-10 Pill Station Top	-	2	2	-	-	2	2	-	-	-	-	-
C-12 Avon Road	-	2	2	-	-	2	2	-	-	-	-	-
QUB6 Quarry underbridge	-	2	2	-	-	2	-	-	-	-	-	2
M5 M5 compound	-	2	2	-	2	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	51	221	272	137	82	55	25	20	26	26	26	36
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD

#### TWO WAY - OPERATING HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	8	8	-	8	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	8	8	8	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	18	18	10	8	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time

#### TWO WAY - MAXIMUM ARRIVAL HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	26	26	26	26
C-9 Ham Green Compound	3	13	16	-	-	16	-	16	-	-	-	-
C-11 Monmouth Road	4	15	19	-	-	19	19	-	-	-	-	-
C-13 Lodway Farm	16	64	80	-	80	-	-	-	-	-	-	-
C-14 Portbury Hundred	16	64	80	80	-	-	-	-	-	-	-	-
C-15 Sheepway	2	6	8	8	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	10	39	49	49	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	2	-	-	-	-	-	-	2
C-5 Valley UB 122m 34ch	-	2	2	-	-	2	-	-	-	-	-	2
C-5A Quarry UB2 122m 40ch	-	2	2	-	-	2	-	-	-	-	-	2
C-6 Quarry UB 4 123m 23ch	-	2	2	-	-	2	-	-	-	-	-	2
C-7 Miles Dock 124m 04ch	-	2	2	-	-	2	-	2	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	2	2	-	-	2	-	2	-	-	-	-
C-9A Pill Viaduct	-	2	2	-	-	2	2	-	-	-	-	-
C-10 Pill Station Top	-	2	2	-	-	2	2	-	-	-	-	-
C-12 Avon Road	-	2	2	-	-	2	2	-	-	-	-	-
QUB6 Quarry underbridge	-	2	2	-	-	2	-	-	-	-	-	2
M5 M5 compound	-	2	2	-	2	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	51	221	272	137	82	55	25	20	26	26	26	36
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## Maximum hour totals – maximum period of activity, with 300 operatives, with two shifts per day

### MAXIMUM HOUR TOTALS - maximum period of activity, with 300 operatives - TWO SHIFTS

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD

#### ONE WAY - OPERATING HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	1	1	1	1
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	3	3	-	3	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	3	3	3	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	7	7	4	3	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts

#### ONE WAY - MAXIMUM ARRIVAL HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	18	18	18	18
C-9 Ham Green Compound	2	9	11	-	-	11	-	11	-	-	-	-
C-11 Monmouth Road	3	10	13	-	-	13	13	-	-	-	-	-
C-13 Lodway Farm	11	44	55	-	55	-	-	-	-	-	-	-
C-14 Portbury Hundred	11	44	55	55	-	-	-	-	-	-	-	-
C-15 Sheepway	1	5	6	6	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	7	27	34	34	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	2	-	-	-	-	-	-	2
C-5 Valley UB 122m 34ch	-	2	2	-	-	2	-	-	-	-	-	2
C-5A Quarry UB2 122m 40ch	-	2	2	-	-	2	-	-	-	-	-	2
C-6 Quarry UB 4 123m 23ch	-	2	2	-	-	2	-	-	-	-	-	2
C-7 Miles Dock 124m 04ch	-	2	2	-	-	2	-	2	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	2	2	-	-	2	-	2	-	-	-	-
C-9A Pill Viaduct	-	2	2	-	-	2	2	-	-	-	-	-
C-10 Pill Station Top	-	2	2	-	-	2	2	-	-	-	-	-
C-12 Avon Road	-	2	2	-	-	2	2	-	-	-	-	-
QUB6 Quarry underbridge	-	2	2	-	-	2	-	-	-	-	-	2
M5 M5 compound	-	2	2	-	2	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	35	159	194	95	57	44	19	15	18	18	18	28
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD

#### TWO WAY - OPERATING HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	6	6	-	6	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	6	6	6	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	14	14	8	6	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts

#### TWO WAY - MAXIMUM ARRIVAL HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	18	18	18	18
C-9 Ham Green Compound	2	9	11	-	-	11	-	11	-	-	-	-
C-11 Monmouth Road	3	10	13	-	-	13	13	-	-	-	-	-
C-13 Lodway Farm	11	44	55	-	55	-	-	-	-	-	-	-
C-14 Portbury Hundred	11	44	55	55	-	-	-	-	-	-	-	-
C-15 Sheepway	1	5	6	6	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	7	27	34	34	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	2	-	-	-	-	-	-	2
C-5 Valley UB 122m 34ch	-	2	2	-	-	2	-	-	-	-	-	2
C-5A Quarry UB2 122m 40ch	-	2	2	-	-	2	-	-	-	-	-	2
C-6 Quarry UB 4 123m 23ch	-	2	2	-	-	2	-	-	-	-	-	2
C-7 Miles Dock 124m 04ch	-	2	2	-	-	2	-	2	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	2	2	-	-	2	-	2	-	-	-	-
C-9A Pill Viaduct	-	2	2	-	-	2	2	-	-	-	-	-
C-10 Pill Station Top	-	2	2	-	-	2	2	-	-	-	-	-
C-12 Avon Road	-	2	2	-	-	2	2	-	-	-	-	-
QUB6 Quarry underbridge	-	2	2	-	-	2	-	-	-	-	-	2
M5 M5 compound	-	2	2	-	2	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	35	159	194	95	57	44	19	15	18	18	18	28
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## AM peak hour – maximum period of activity, with 300 operatives, with a single shift per day (one start time)

### AM PEAK HOUR - maximum period of activity, with 300 operatives - SINGLE SHIFT (single start time)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD

#### ONE WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	1	1	1	1	
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	
C-13 Lodway Farm	-	3	3	-	3	-	-	-	-	-	-	
C-14 Portbury Hundred	-	3	3	3	-	-	-	-	-	-	-	
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	

Materials HGV movements - ONE WAY	-	7	7	4	3	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time

#### ONE WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	7	7	7	7	
C-9 Ham Green Compound	1	3	4	-	-	4	-	4	-	-	-	
C-11 Monmouth Road	1	4	5	-	-	5	5	-	-	-	-	
C-13 Lodway Farm	4	17	21	-	21	-	-	-	-	-	-	
C-14 Portbury Hundred	4	17	21	21	-	-	-	-	-	-	-	
C-15 Sheepway	-	2	2	2	-	-	-	-	-	-	-	
C-16 Portishead Station Site	3	10	13	13	-	-	-	-	-	-	-	

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	13	63	76	36	22	19	8	6	7	7	7	12
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD

#### TWO WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	2	2	2	2	
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	
C-13 Lodway Farm	-	6	6	-	6	-	-	-	-	-	-	
C-14 Portbury Hundred	-	6	6	6	-	-	-	-	-	-	-	
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	

Materials HGV movements - TWO WAY	-	14	14	8	6	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time

#### TWO WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	7	7	7	7	
C-9 Ham Green Compound	1	3	4	-	-	4	-	4	-	-	-	
C-11 Monmouth Road	1	4	5	-	-	5	5	-	-	-	-	
C-13 Lodway Farm	4	17	21	-	21	-	-	-	-	-	-	
C-14 Portbury Hundred	4	17	21	21	-	-	-	-	-	-	-	
C-15 Sheepway	-	2	2	2	-	-	-	-	-	-	-	
C-16 Portishead Station Site	3	10	13	13	-	-	-	-	-	-	-	

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	13	63	76	36	22	19	8	6	7	7	7	12
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## AM peak hour – maximum period of activity, with 300 operatives, with two shifts per day

### AM PEAK HOUR - maximum period of activity, with 300 operatives - TWO SHIFTS

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD

#### ONE WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	1	1	1	1
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	3	3	-	3	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	3	3	3	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	7	7	4	3	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts

#### ONE WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	3	23	26	9	6	12	4	3	2	2	2	7
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD

#### TWO WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	6	6	-	6	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	6	6	6	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	14	14	8	6	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts

#### TWO WAY - AM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	3	23	26	9	6	12	4	3	2	2	2	7
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## IP average hour – maximum period of activity, with 300 operatives, with a single shift per day (one start time)

### IP AVERAGE HOUR - maximum period of activity, with 300 operatives - SINGLE SHIFT (single start time)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priory Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD ONE WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	1	1	1	1
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	3	3	-	3	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	3	3	3	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	7	7	4	3	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time ONE WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	-	-	-	-
C-9 Ham Green Compound	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	-	-	-	-	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	-	-	-	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	-	-	-	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	-	-	-	-	-	-	-	-
C-5 Valley UB 122m 34ch	-	-	-	-	-	-	-	-	-	-	-	-
C-5A Quarry UB2 122m 40ch	-	-	-	-	-	-	-	-	-	-	-	-
C-6 Quarry UB 4 123m 23ch	-	-	-	-	-	-	-	-	-	-	-	-
C-7 Miles Dock 124m 04ch	-	-	-	-	-	-	-	-	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	-	-	-	-	-	-	-	-	-	-	-
C-9A Pill Viaduct	-	-	-	-	-	-	-	-	-	-	-	-
C-10 Pill Station Top	-	-	-	-	-	-	-	-	-	-	-	-
C-12 Avon Road	-	-	-	-	-	-	-	-	-	-	-	-
QUB6 Quarry underbridge	-	-	-	-	-	-	-	-	-	-	-	-
M5 M5 compound	-	-	-	-	-	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	-	-	-	-	-	-	-	-	-	-	-	-
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priory Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD TWO WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	6	6	-	6	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	6	6	6	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	14	14	8	6	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time TWO WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	-	-	-	-
C-9 Ham Green Compound	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	-	-	-	-	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	-	-	-	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	-	-	-	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	-	-	-	-	-	-	-	-
C-5 Valley UB 122m 34ch	-	-	-	-	-	-	-	-	-	-	-	-
C-5A Quarry UB2 122m 40ch	-	-	-	-	-	-	-	-	-	-	-	-
C-6 Quarry UB 4 123m 23ch	-	-	-	-	-	-	-	-	-	-	-	-
C-7 Miles Dock 124m 04ch	-	-	-	-	-	-	-	-	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	-	-	-	-	-	-	-	-	-	-	-
C-9A Pill Viaduct	-	-	-	-	-	-	-	-	-	-	-	-
C-10 Pill Station Top	-	-	-	-	-	-	-	-	-	-	-	-
C-12 Avon Road	-	-	-	-	-	-	-	-	-	-	-	-
QUB6 Quarry underbridge	-	-	-	-	-	-	-	-	-	-	-	-
M5 M5 compound	-	-	-	-	-	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	-	-	-	-	-	-	-	-	-	-	-	-
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## IP hour (average) – maximum period of activity, with 300 operatives, with two shifts per day

### IP HOUR (average) - maximum period of activity, with 300 operatives - TWO SHIFTS

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD ONE WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	1	1	1	1
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	3	3	-	3	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	3	3	3	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	7	7	4	3	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts ONE WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	3	23	26	9	6	12	4	3	2	2	2	7
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD TWO WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	6	6	-	6	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	6	6	6	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	14	14	8	6	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts TWO WAY - IP aver HOUR

Main compounds												
C-4 Clanage Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clanage Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	3	23	26	9	6	12	4	3	2	2	2	7
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## IP hour (shift changeover) – maximum period of activity, with 300 operatives, with two shifts per day

### IP HOUR (shift changeover) - maximum period of activity, with 300 operatives - TWO SHIFTS

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD ONE WAY - IP aver HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	1	1	1	1	1
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	3	3	-	3	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	3	3	3	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	7	7	4	3	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts ONE WAY - IP changeover HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	14	14	14	14	14
C-9 Ham Green Compound	2	6	8	-	-	8	-	8	-	-	-	-
C-11 Monmouth Road	2	8	10	-	-	10	10	-	-	-	-	-
C-13 Lodway Farm	8	34	42	-	42	-	-	-	-	-	-	-
C-14 Portbury Hundred	8	34	42	42	-	-	-	-	-	-	-	-
C-15 Sheepway	1	3	4	4	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	5	21	26	26	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	26	116	142	72	43	28	13	10	14	14	14	19
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD TWO WAY - IP aver HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	2	2	2	2	2
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	6	6	-	6	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	6	6	6	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	14	14	8	6	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts TWO WAY - IP changeover HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	28	28	28	28	28
C-9 Ham Green Compound	4	12	16	-	-	16	-	16	-	-	-	-
C-11 Monmouth Road	4	16	20	-	-	20	20	-	-	-	-	-
C-13 Lodway Farm	16	68	84	-	84	-	-	-	-	-	-	-
C-14 Portbury Hundred	16	68	84	84	-	-	-	-	-	-	-	-
C-15 Sheepway	2	6	8	8	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	10	42	52	52	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	2	-	-	-	-	-	-	2
C-5 Valley UB 122m 34ch	-	2	2	-	-	2	-	-	-	-	-	2
C-5A Quarry UB2 122m 40ch	-	2	2	-	-	2	-	-	-	-	-	2
C-6 Quarry UB 4 123m 23ch	-	2	2	-	-	2	-	-	-	-	-	2
C-7 Miles Dock 124m 04ch	-	2	2	-	-	2	-	2	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	2	2	-	-	2	-	2	-	-	-	-
C-9A Pill Viaduct	-	2	2	-	-	2	2	-	-	-	-	-
C-10 Pill Station Top	-	2	2	-	-	2	2	-	-	-	-	-
C-12 Avon Road	-	2	2	-	-	2	2	-	-	-	-	-
QUB6 Quarry underbridge	-	2	2	-	-	2	-	-	-	-	-	2
M5 M5 compound	-	2	2	-	2	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	52	232	284	144	86	56	26	20	28	28	28	38
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## PM peak hour – maximum period of activity, with 300 operatives, with a single shift per day (one start time)

### PM PEAK HOUR - maximum period of activity, with 300 operatives - SINGLE SHIFT (single start time)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priory Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD

#### ONE WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	-	-	-	-
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	-	-	-	-	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	-	-	-	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	-	-	-	-	-	-	-	-	-	-	-

#### Materials HGV movements - ONE WAY

#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time

#### ONE WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	2	2	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

#### Satellite and other compounds

C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	1	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

#### Personnel: cars/light vans - ONE WAY

3	23	26	9	6	12	4	3	2	2	2	7
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priory Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD

#### TWO WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	-	-	-	-
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	-	-	-	-	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	-	-	-	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	-	-	-	-	-	-	-	-	-	-	-

#### Materials HGV movements - TWO WAY

#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - single shift, same start time

#### TWO WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	2	2	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

#### Satellite and other compounds

C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	1	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

#### Personnel: cars/light vans - TWO WAY

3	23	26	9	6	12	4	3	2	2	2	7
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## PM peak hour – maximum period of activity, with 300 operatives, with two shifts per day

### PM PEAK HOUR - maximum period of activity, with 300 operatives - TWO SHIFTS

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to main compounds - MAXIMUM PERIOD

#### ONE WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	1	1	1	1
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	3	3	-	3	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	3	3	3	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	1	1	1	-	-	-	-	-	-	-	-

Materials HGV movements - ONE WAY	-	7	7	4	3	-	-	-	1	1	1	1
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts

#### ONE WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - ONE WAY	3	23	26	9	6	12	4	3	2	2	2	7
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\* M5 South (20% personnel, 0% material) : \*\* M5 North (80% personnel, 100% material)

compounds & routes	M5 South *	M5 North **	M5 Junction 19	A369 Portbury Hundred	Royal Portbury Dock Rd	A369 Martcombe Rd	Priony Rd (Pill)	Pill Rd	M5 Junction 18	A4 Portway	A370/Brunel Wy/Cumbrind Bsin	A369 near Long Ashton
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#### Materials: HGV movements to/from main compounds - MAXIMUM PERIOD

#### TWO WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green	-	-	-	-	-	-	-	-	-	-	-	-
C-11 Monmouth Road	-	-	-	-	-	-	-	-	-	-	-	-
C-13 Lodway Farm	-	6	6	-	6	-	-	-	-	-	-	-
C-14 Portbury Hundred	-	6	6	6	-	-	-	-	-	-	-	-
C-15 Sheepway	-	-	-	-	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	-	2	2	2	-	-	-	-	-	-	-	-

Materials HGV movements - TWO WAY	-	14	14	8	6	-	-	-	2	2	2	2
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#### Personnel: cars/light vans to compounds - 300 operatives (maximum) - two shifts

#### TWO WAY - PM peak HOUR

Main compounds												
C-4 Clange Road	-	-	-	-	-	-	-	-	2	2	2	2
C-9 Ham Green Compound	-	1	1	-	-	1	-	1	-	-	-	-
C-11 Monmouth Road	-	1	1	-	-	1	1	-	-	-	-	-
C-13 Lodway Farm	1	4	5	-	5	-	-	-	-	-	-	-
C-14 Portbury Hundred	1	4	5	5	-	-	-	-	-	-	-	-
C-15 Sheepway	-	1	1	1	-	-	-	-	-	-	-	-
C-16 Portishead Station Site	1	2	3	3	-	-	-	-	-	-	-	-

Satellite and other compounds												
C-4 Clange Road micro-compound	-	-	-	-	1	-	-	-	-	-	-	1
C-5 Valley UB 122m 34ch	-	1	1	-	-	1	-	-	-	-	-	1
C-5A Quarry UB2 122m 40ch	-	1	1	-	-	1	-	-	-	-	-	1
C-6 Quarry UB 4 123m 23ch	-	1	1	-	-	1	-	-	-	-	-	1
C-7 Miles Dock 124m 04ch	-	1	1	-	-	1	-	1	-	-	-	-
C-8 Chapel Pill Farm 124m 44ch	-	1	1	-	-	1	-	1	-	-	-	-
C-9A Pill Viaduct	-	1	1	-	-	1	1	-	-	-	-	-
C-10 Pill Station Top	-	1	1	-	-	1	1	-	-	-	-	-
C-12 Avon Road	-	1	1	-	-	1	1	-	-	-	-	-
QUB6 Quarry underbridge	-	1	1	-	-	1	-	-	-	-	-	1
M5 M5 compound	-	1	1	-	1	-	-	-	-	-	-	-

Personnel: cars/light vans - TWO WAY	3	23	26	9	6	12	4	3	2	2	2	7
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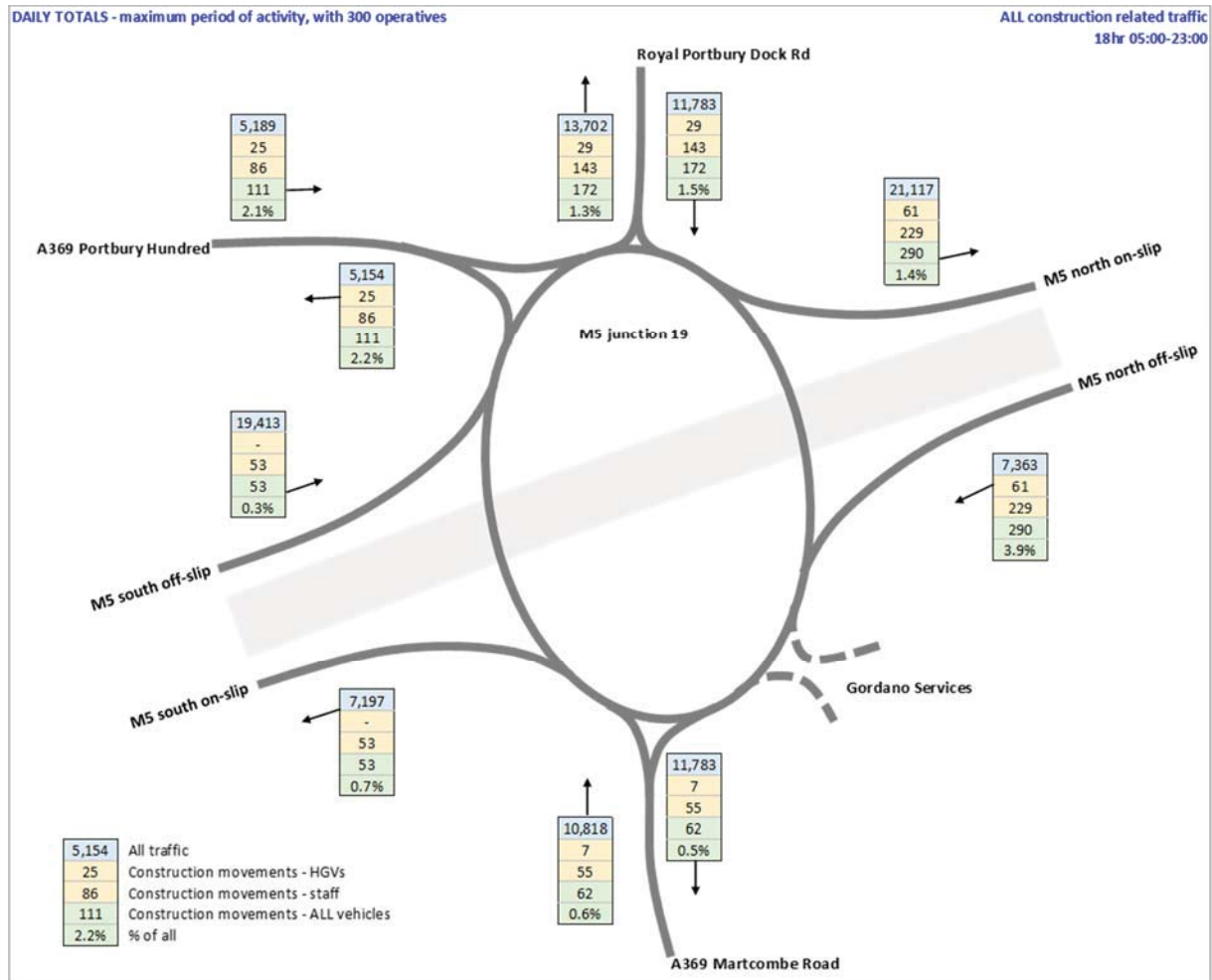
### Appendix B

#### M5 junction 19 traffic movements – plots

List of operating scenarios showing construction traffic and counts at the junction:

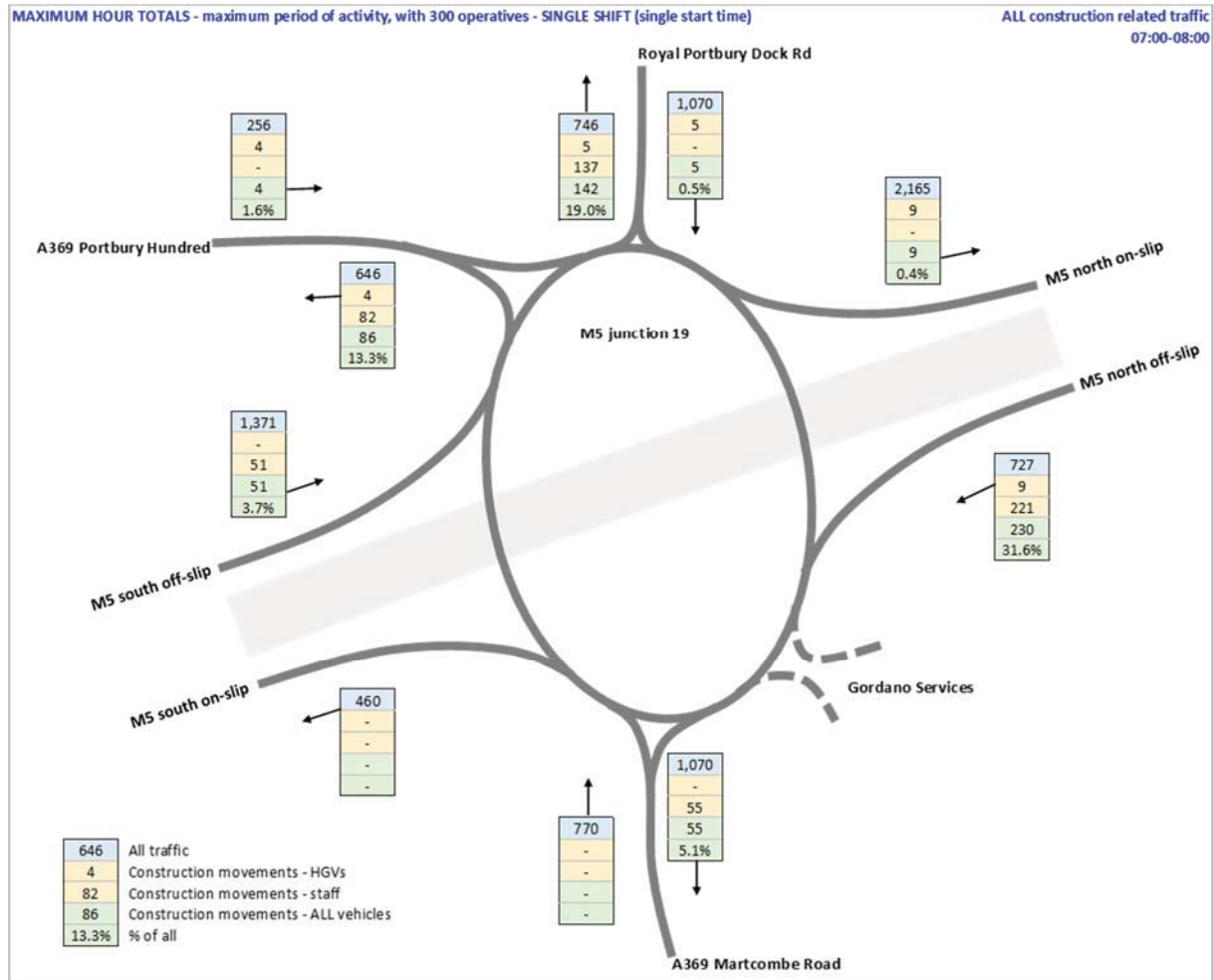
- Daily totals, 18hr 05:00-23:00 – maximum period of activity, with 300 operatives
- Maximum hour totals, 07:00-08:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- Maximum hour totals, 05:00-06:00 – maximum period of activity, 300 operatives, two shifts per day
- AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, two shifts per day
- IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives, two shifts per day
- IP hour (shift changeover), 13:00-14:00 – maximum period of activity, 300 operatives, two shifts per day
- PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, two shifts per day

### Daily totals, 18hr 05:00-23:00 – maximum period of activity, with 300 operatives

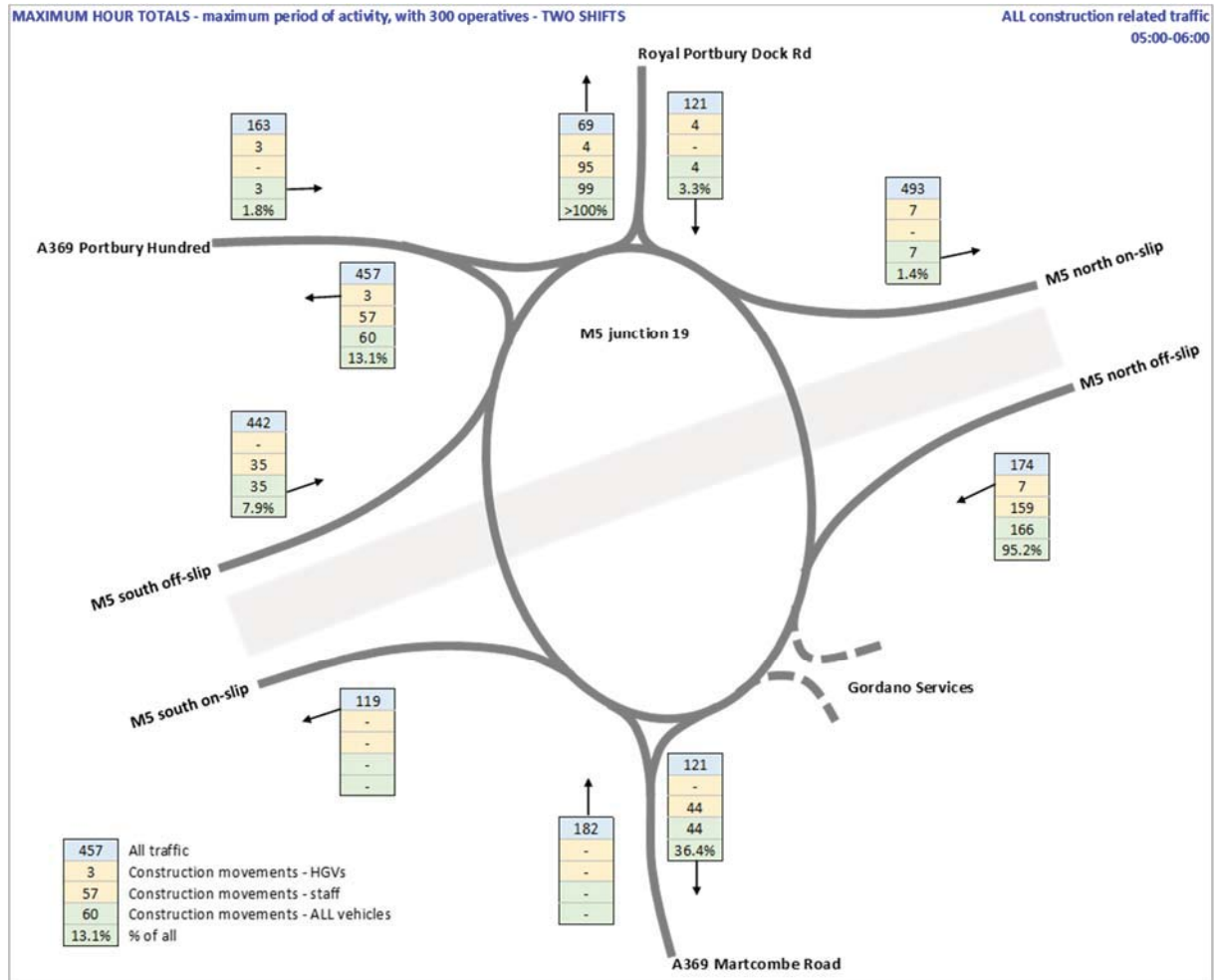




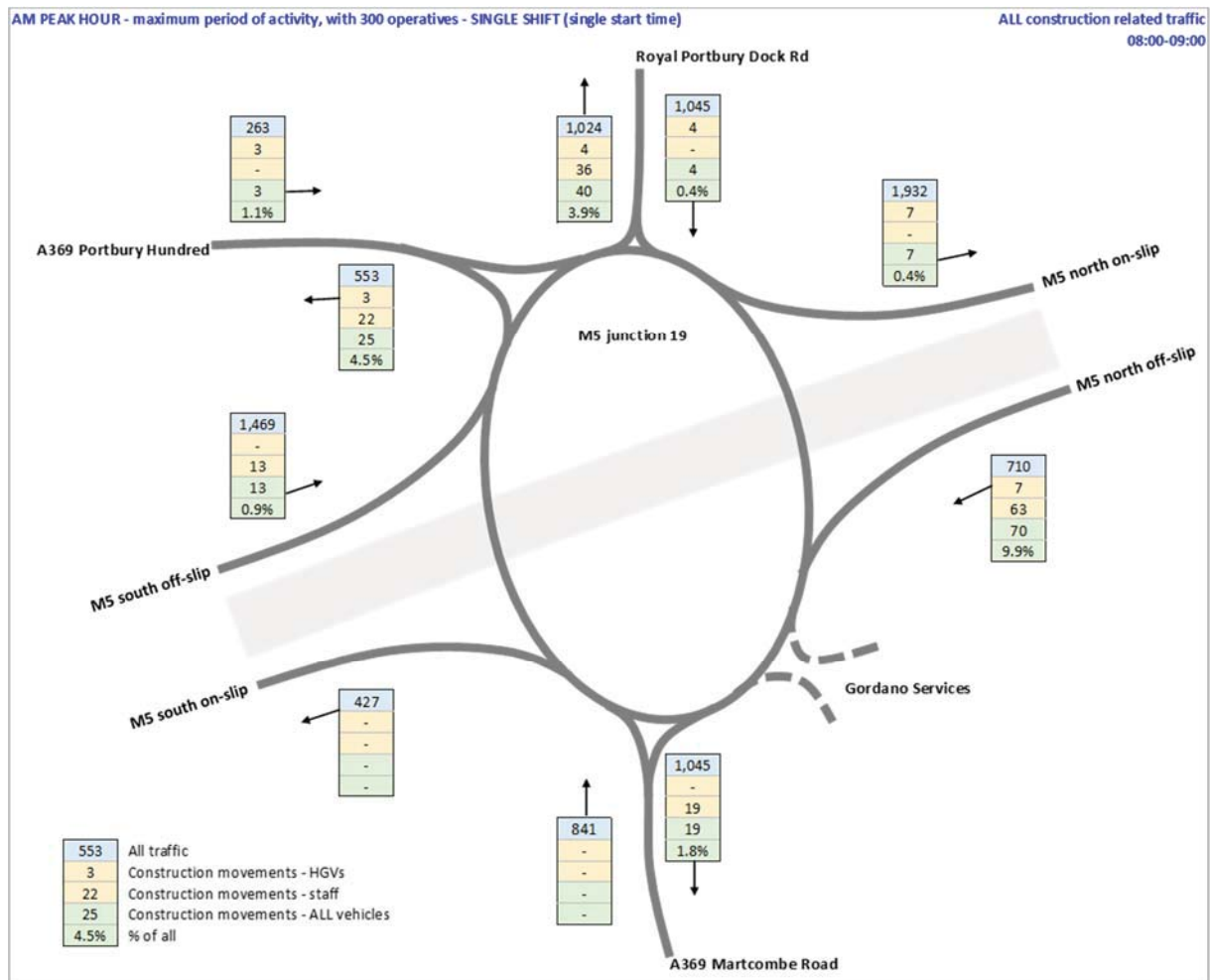
### Maximum hour totals, 07:00-08:00 – maximum period of activity, 300 operatives, single shift per day (one start time)



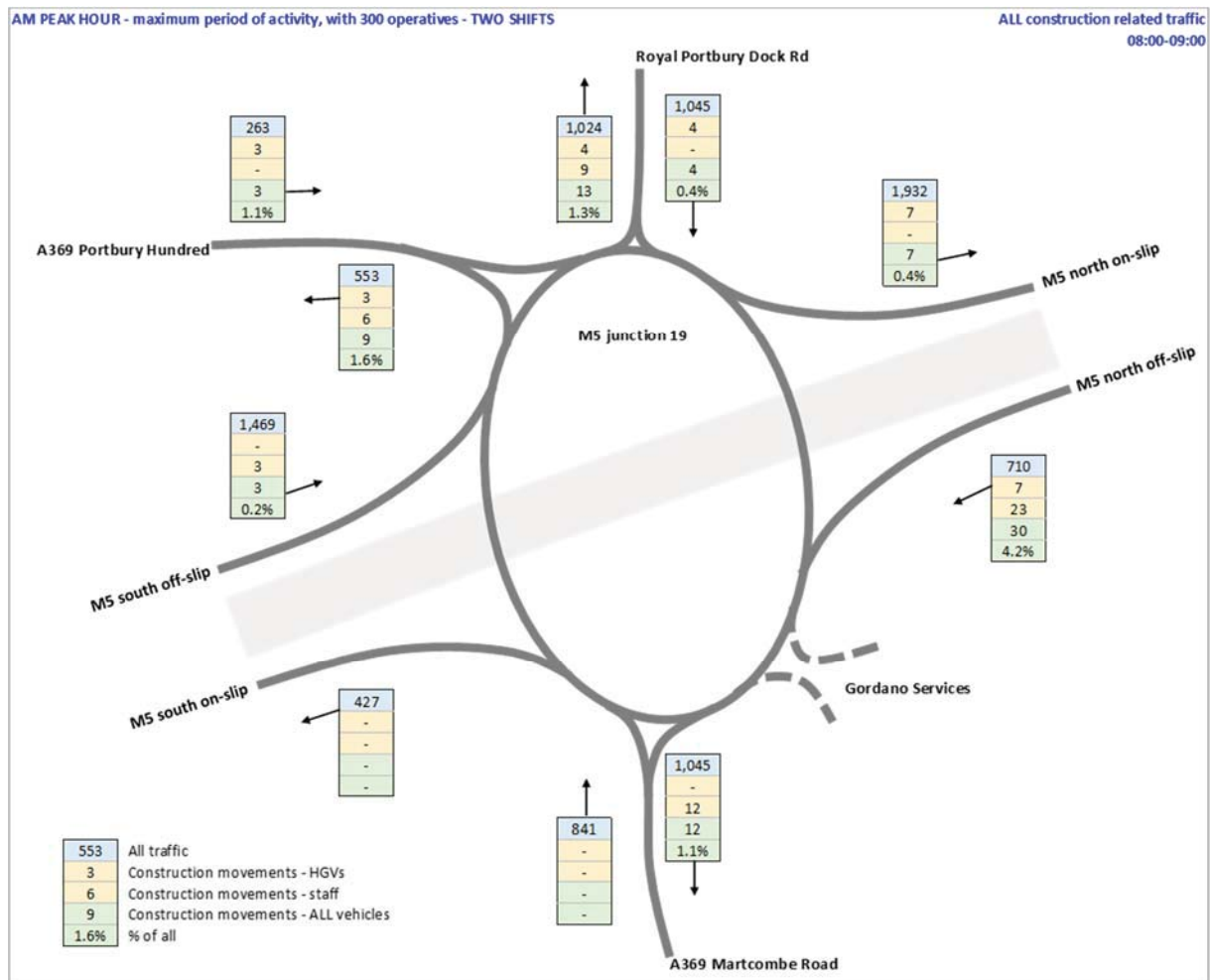
### Maximum hour totals, 05:00-06:00 – maximum period of activity, 300 operatives, two shifts per day



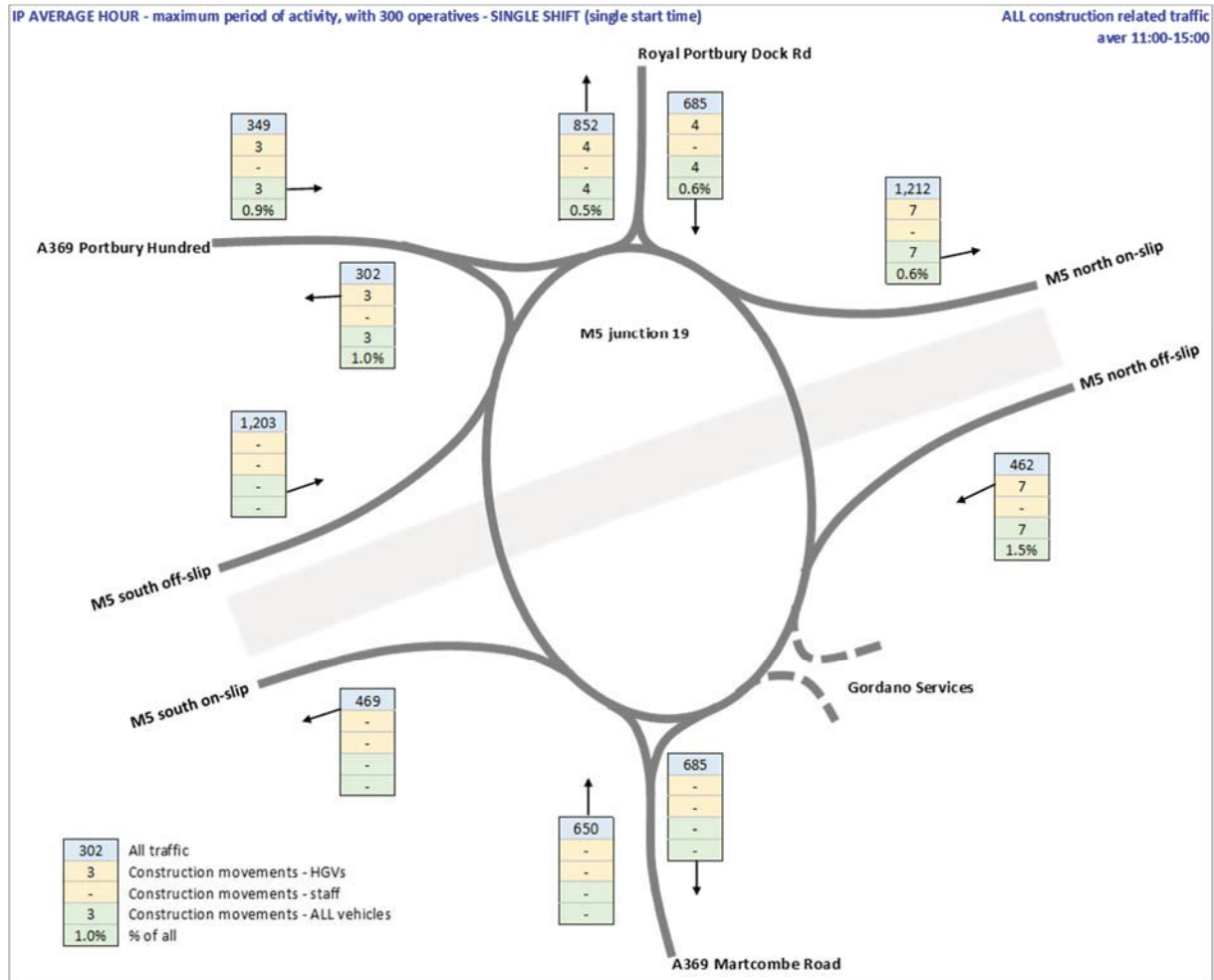
**AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, single shift per day (one start time)**



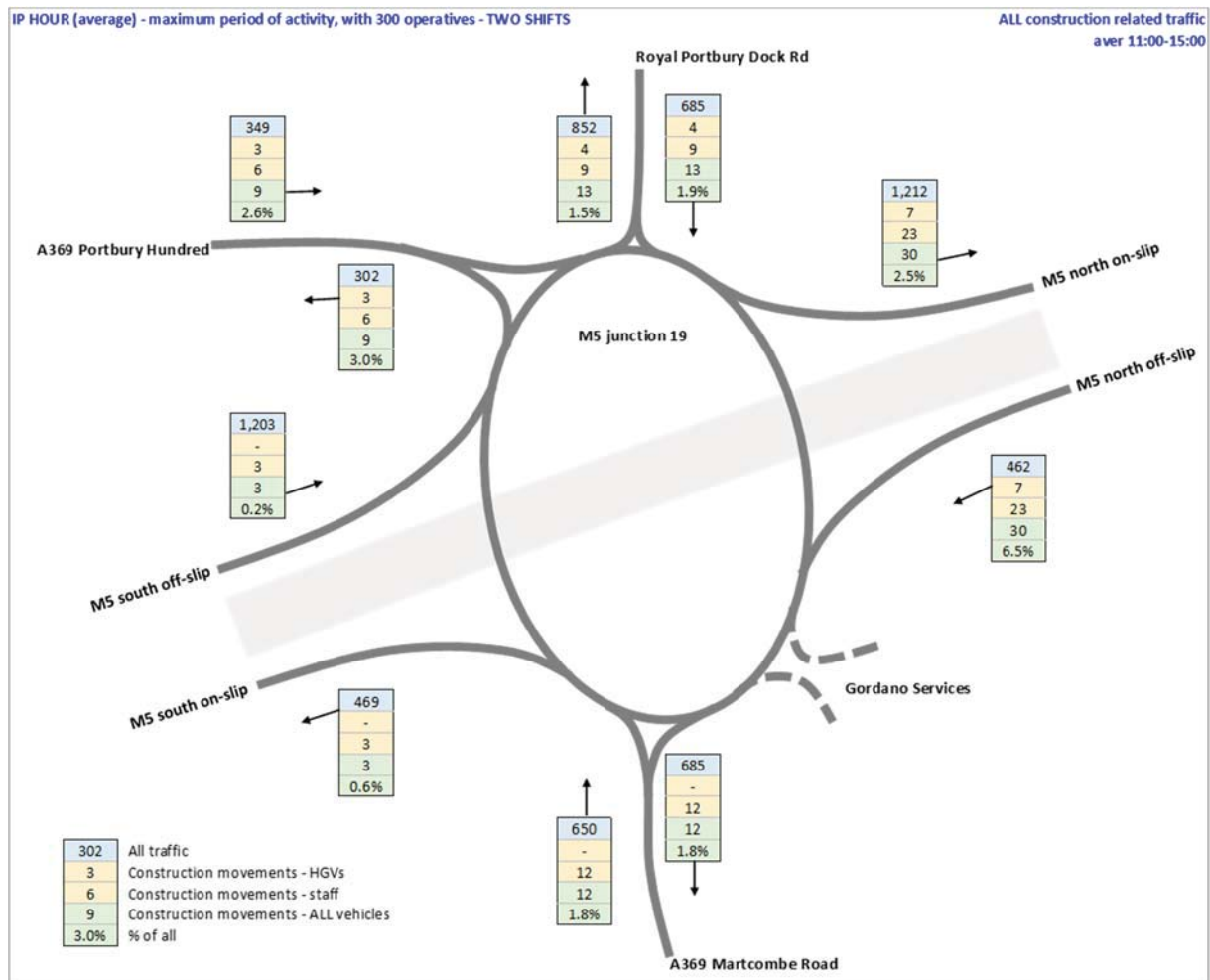
### AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, two shifts per day



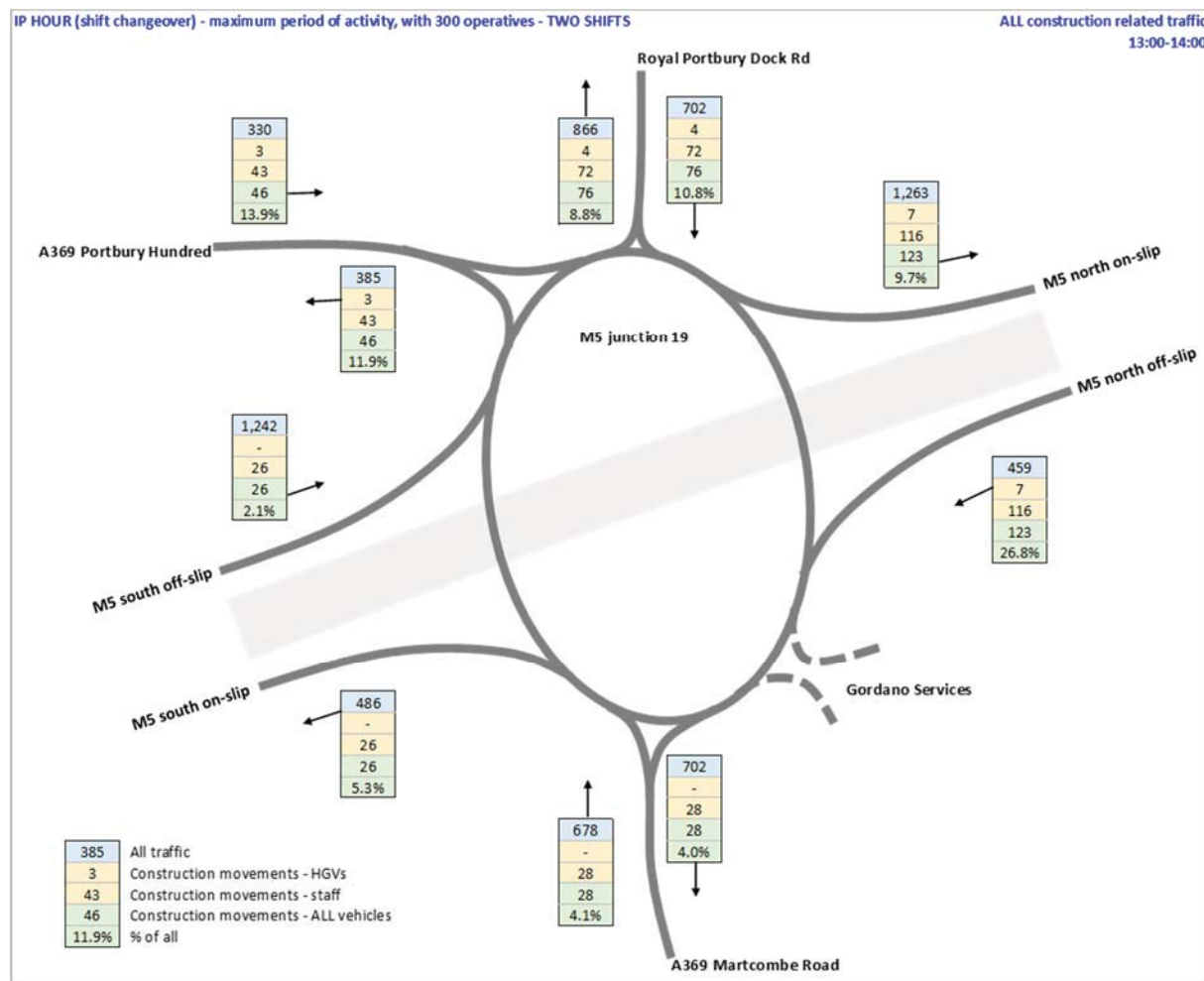
**IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives,  
single shift per day (one start time)**



**IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives,  
two shifts per day**

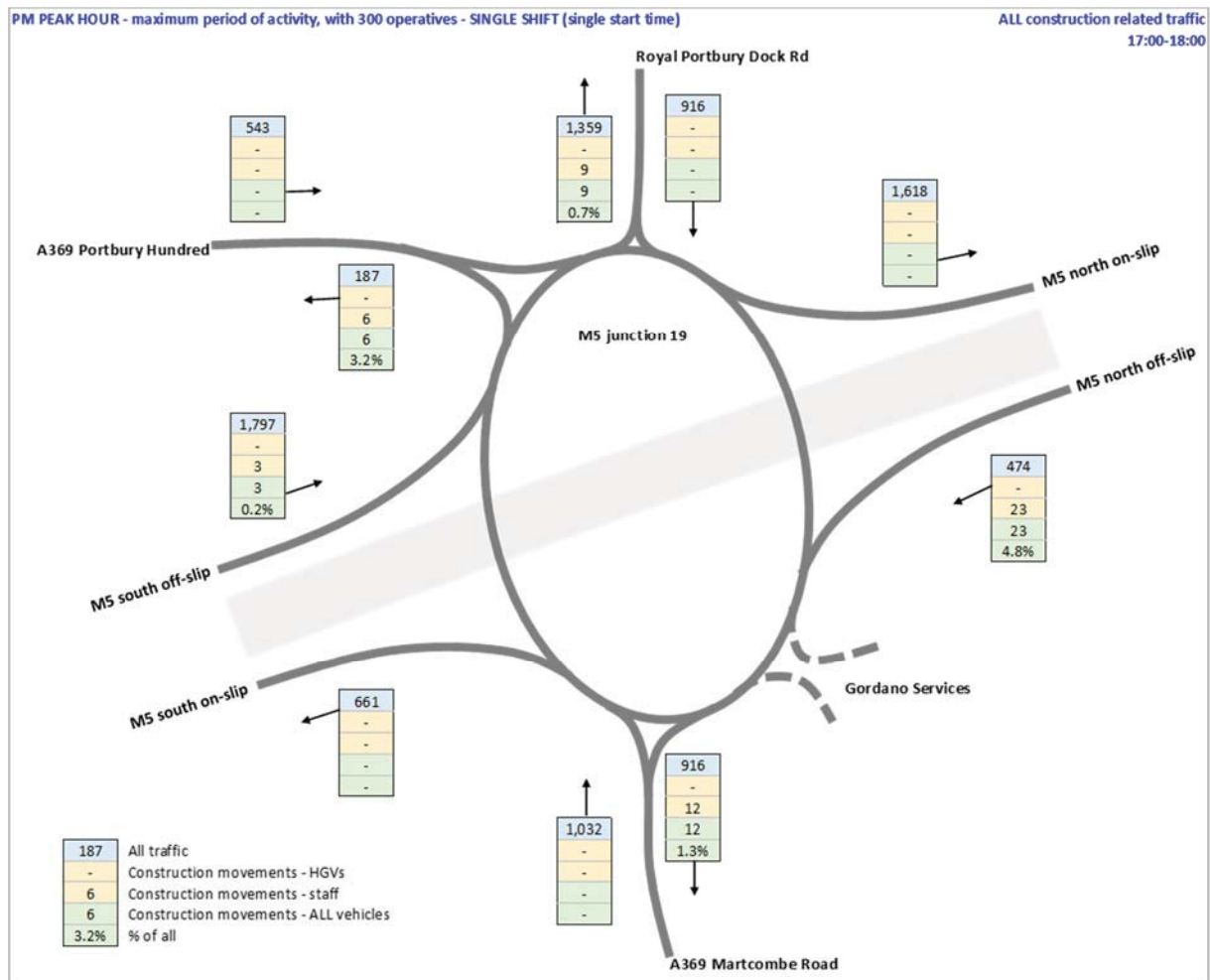


**IP hour (shift changeover), 13:00-14:00 – maximum period of activity, 300 operatives, two shifts per day**

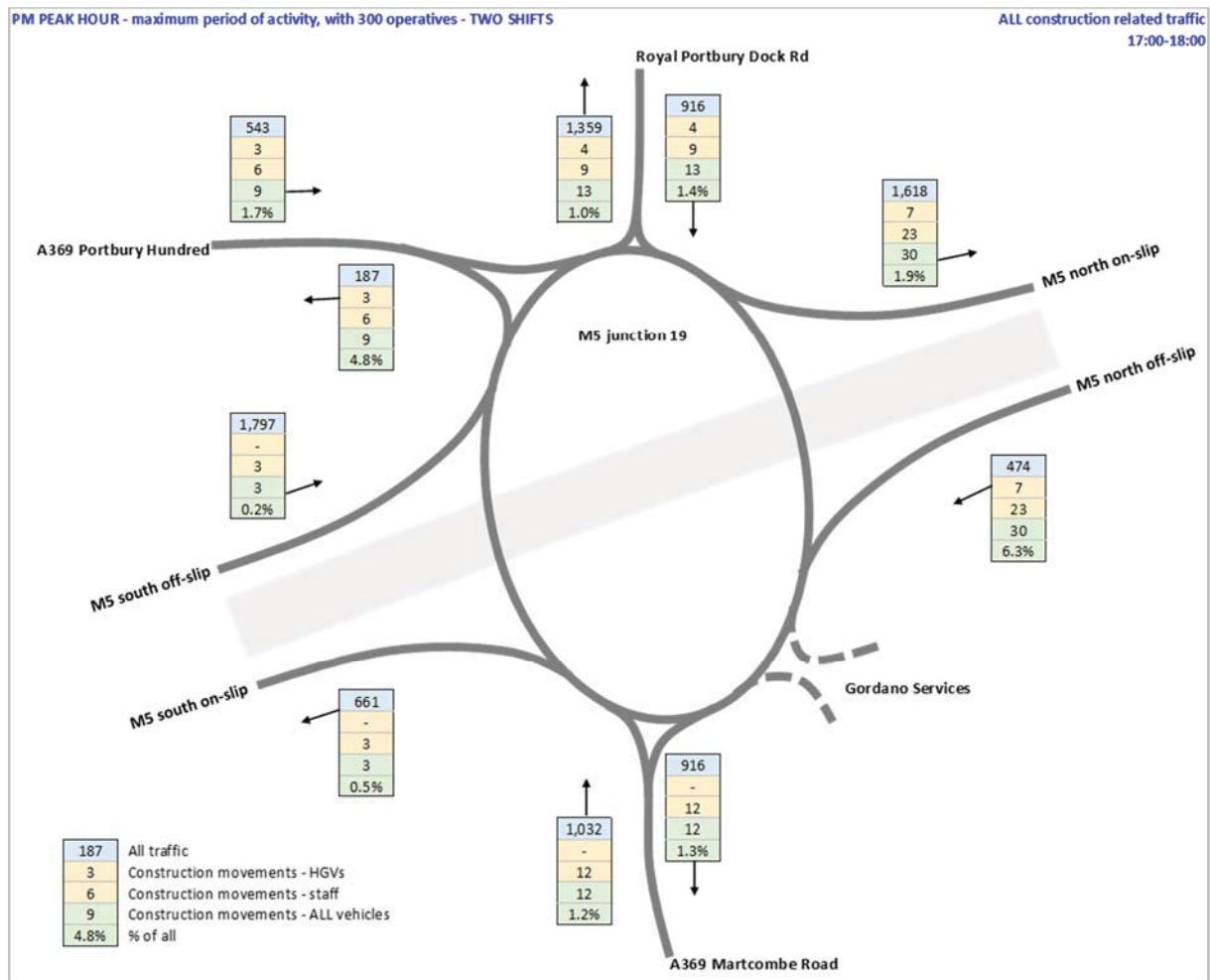




**PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, single shift per day (one start time)**



**PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, two shifts per day**



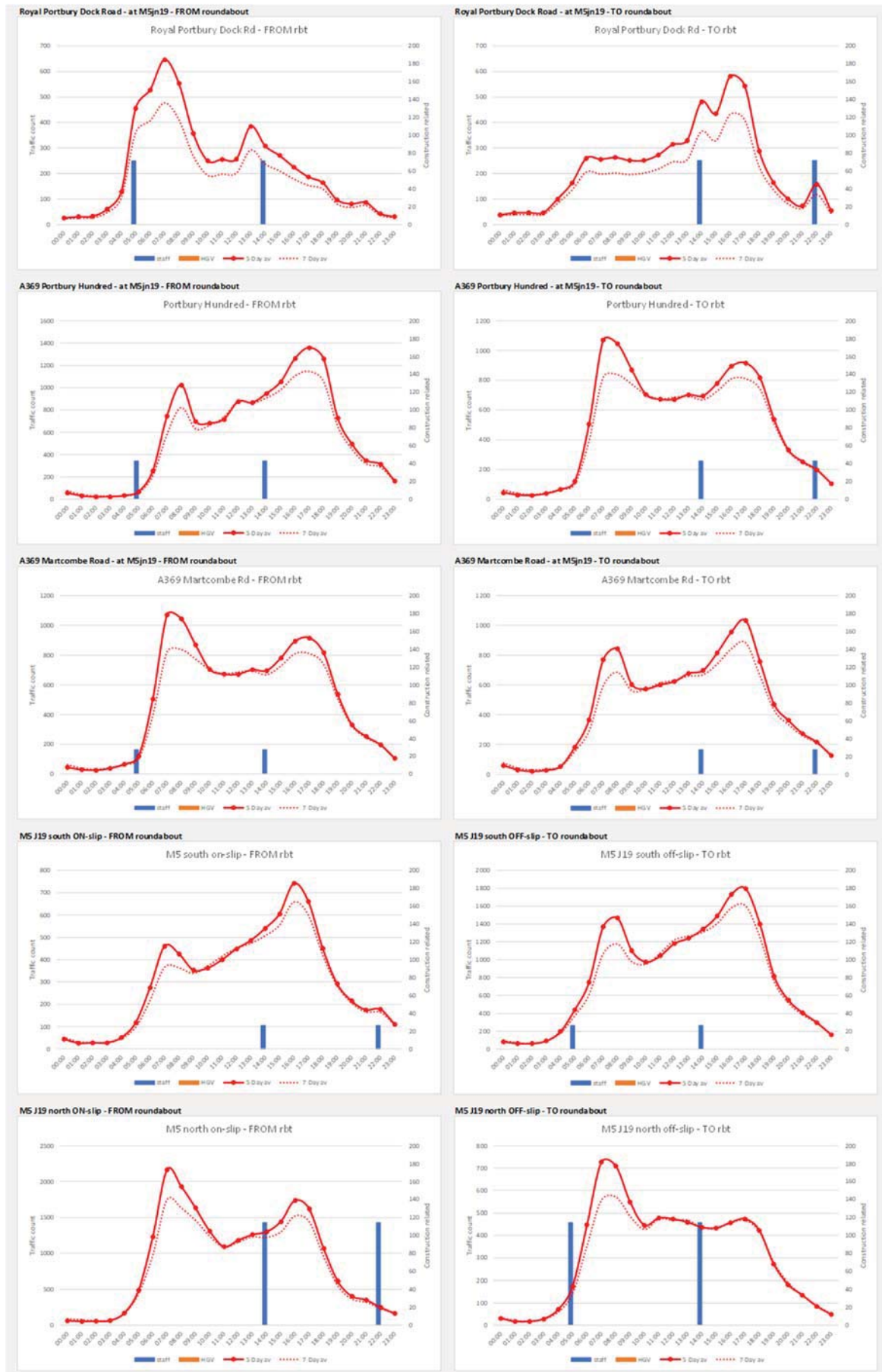
### Appendix C

#### M5 junction 19 traffic movements – profiles

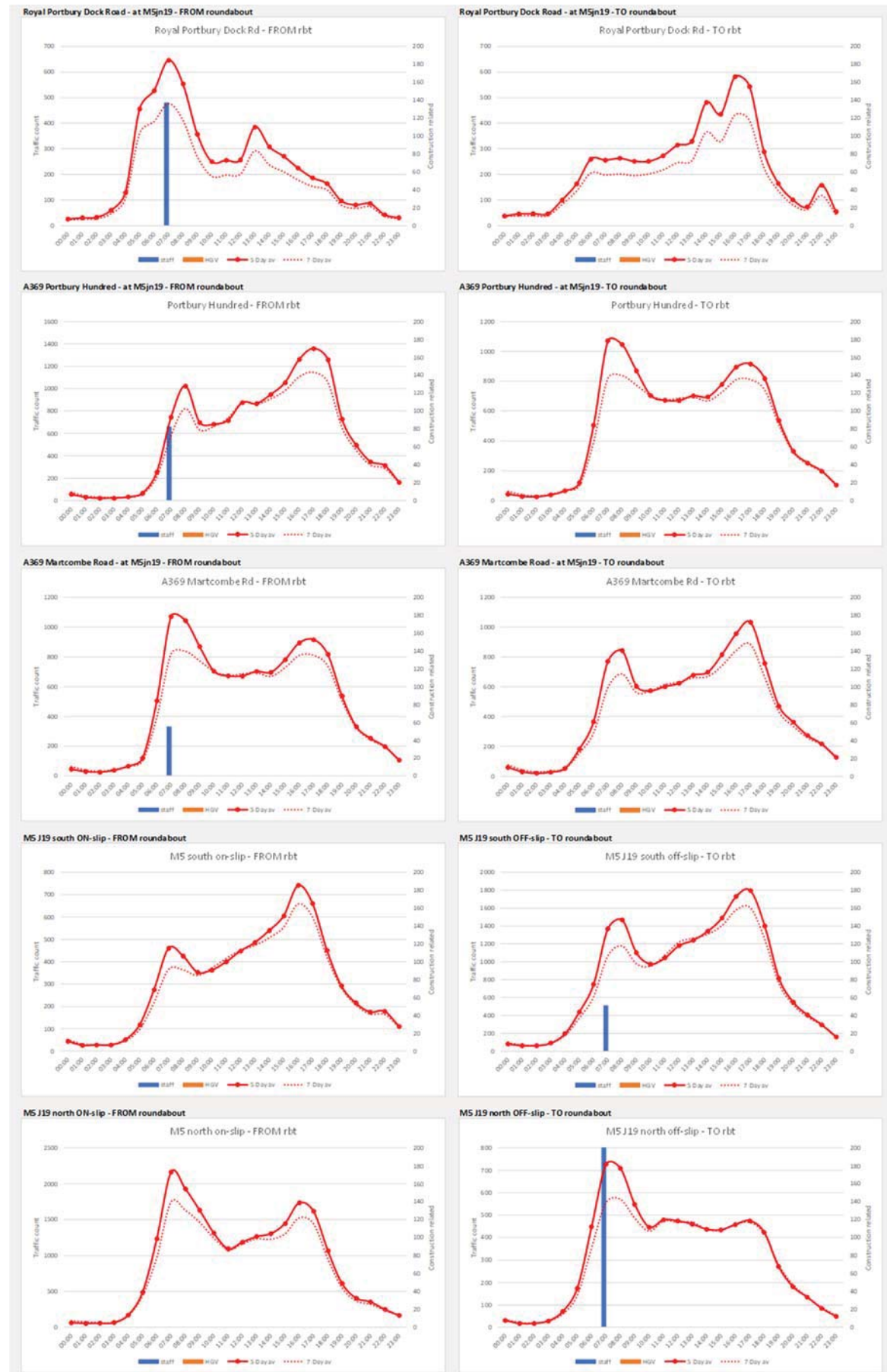
List of operating scenarios illustrating the profile of movements through the day, including proportions of construction traffic at the junction:

- Daily totals, 18hr 05:00-23:00 – maximum period of activity, with 300 operatives
- Maximum hour totals, 07:00-08:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- Maximum hour totals, 05:00-06:00 – maximum period of activity, 300 operatives, two shifts per day
- AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, two shifts per day
- IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives, two shifts per day
- IP hour (shift changeover), 13:00-14:00 – maximum period of activity, 300 operatives, two shifts per day
- PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, single shift per day (one start time)
- PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, two shifts per day

## Daily totals, 18hr 05:00-23:00 – maximum period of activity, with 300 operatives

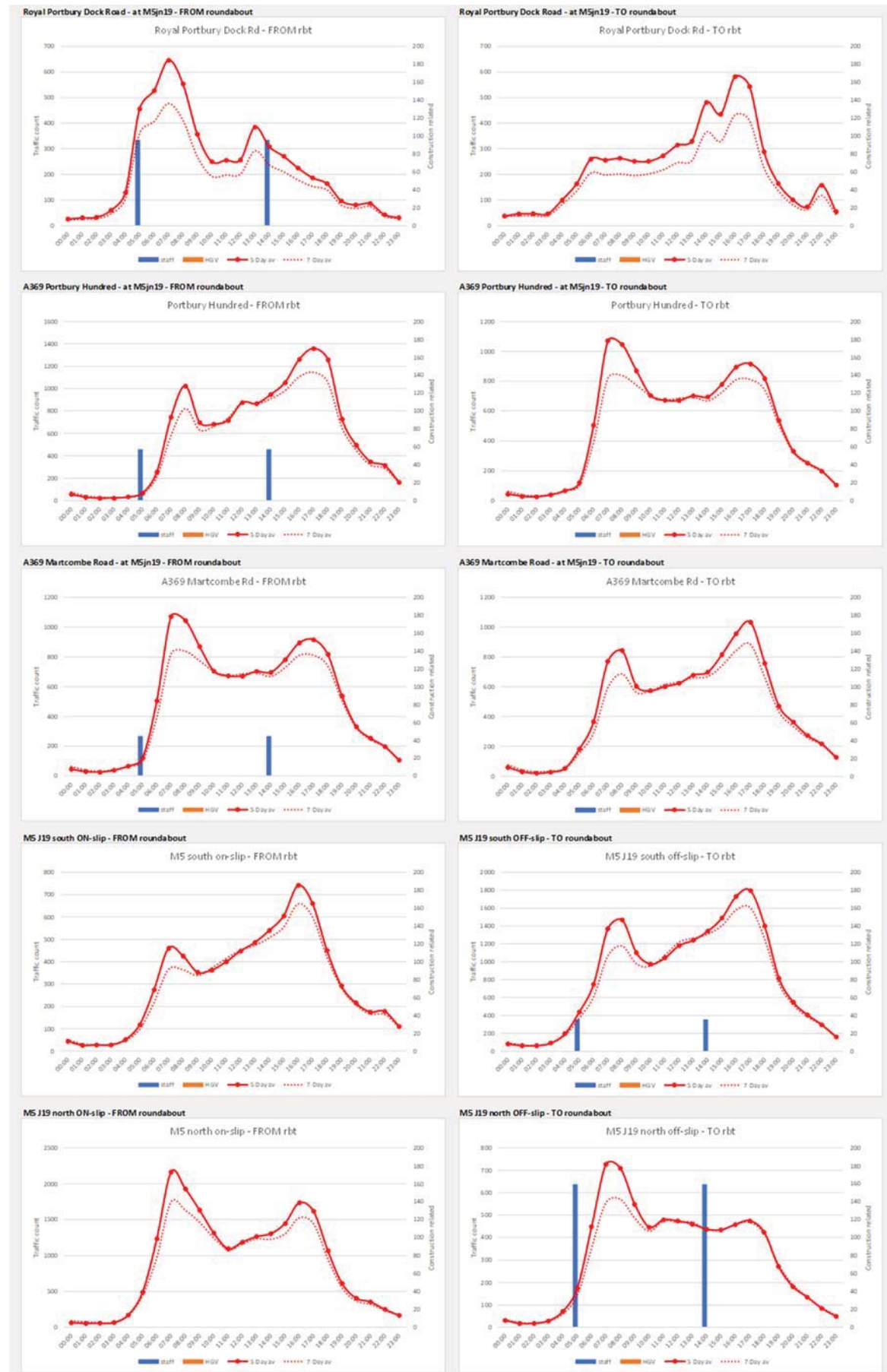


Maximum hour totals, 07:00-08:00 – maximum period of activity, 300 operatives, single shift per day (one start time)

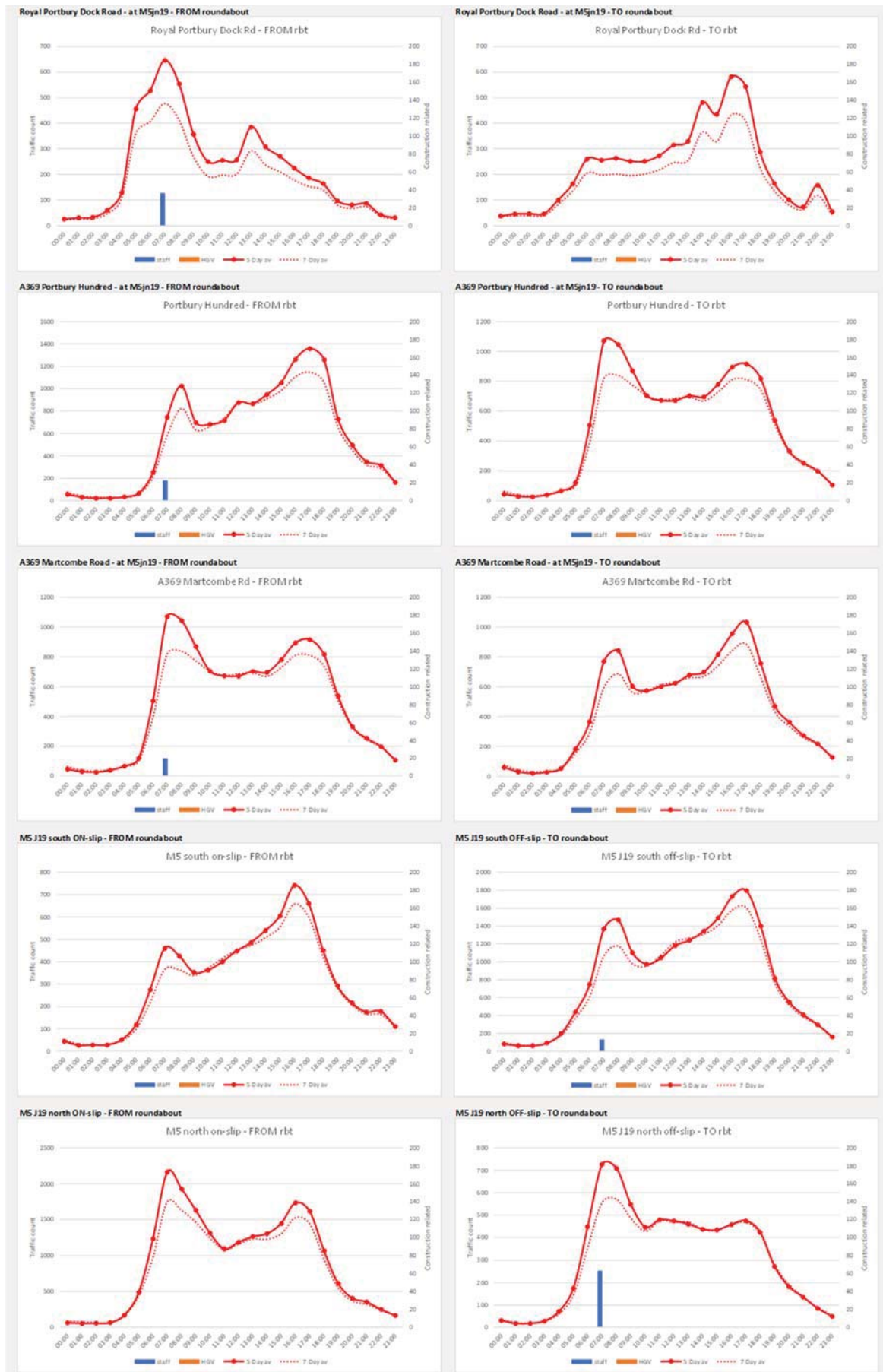




Maximum hour totals, 05:00-06:00 – maximum period of activity, 300 operatives, two shifts per day

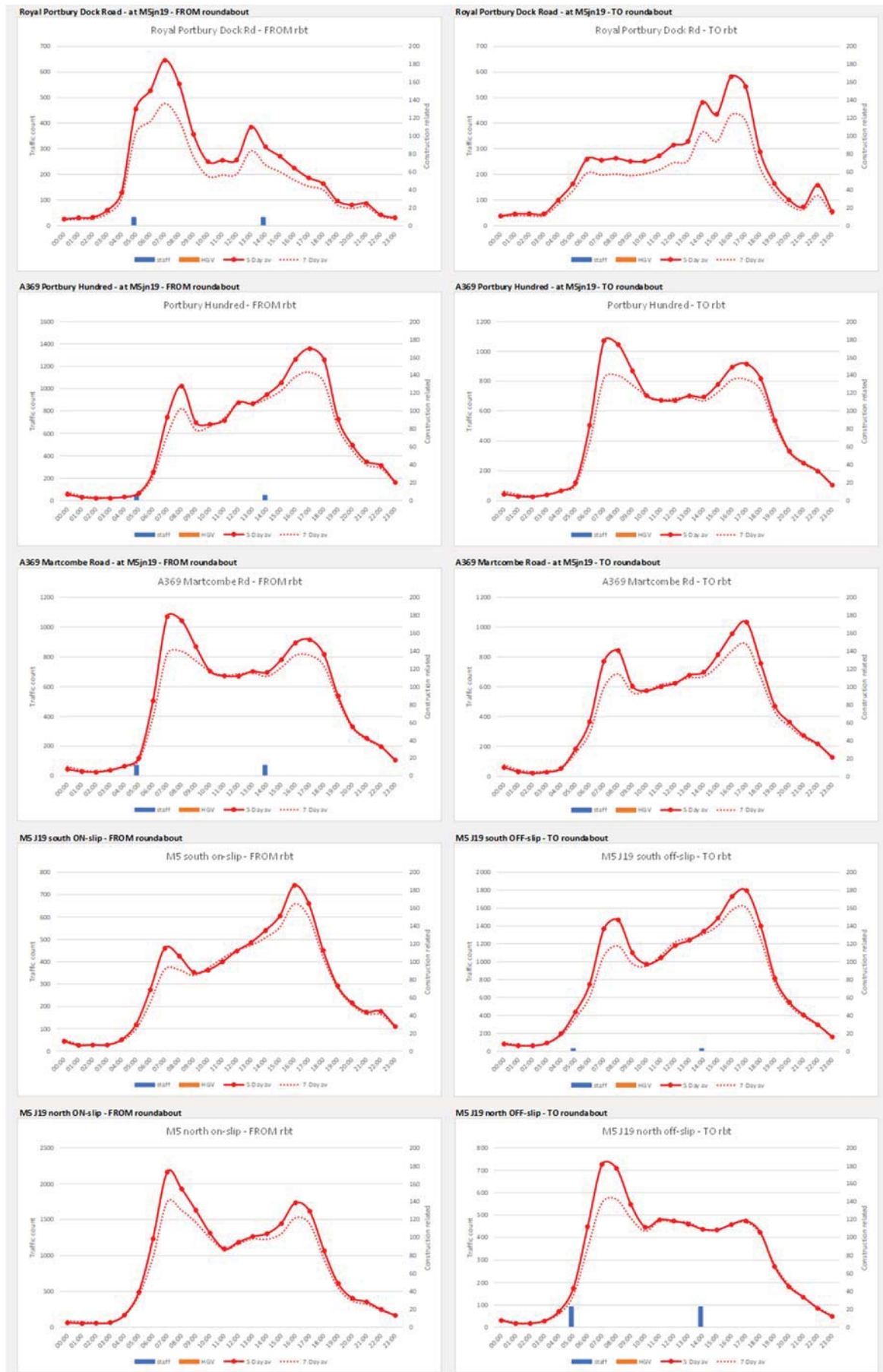


**AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, single shift per day (one start time)**

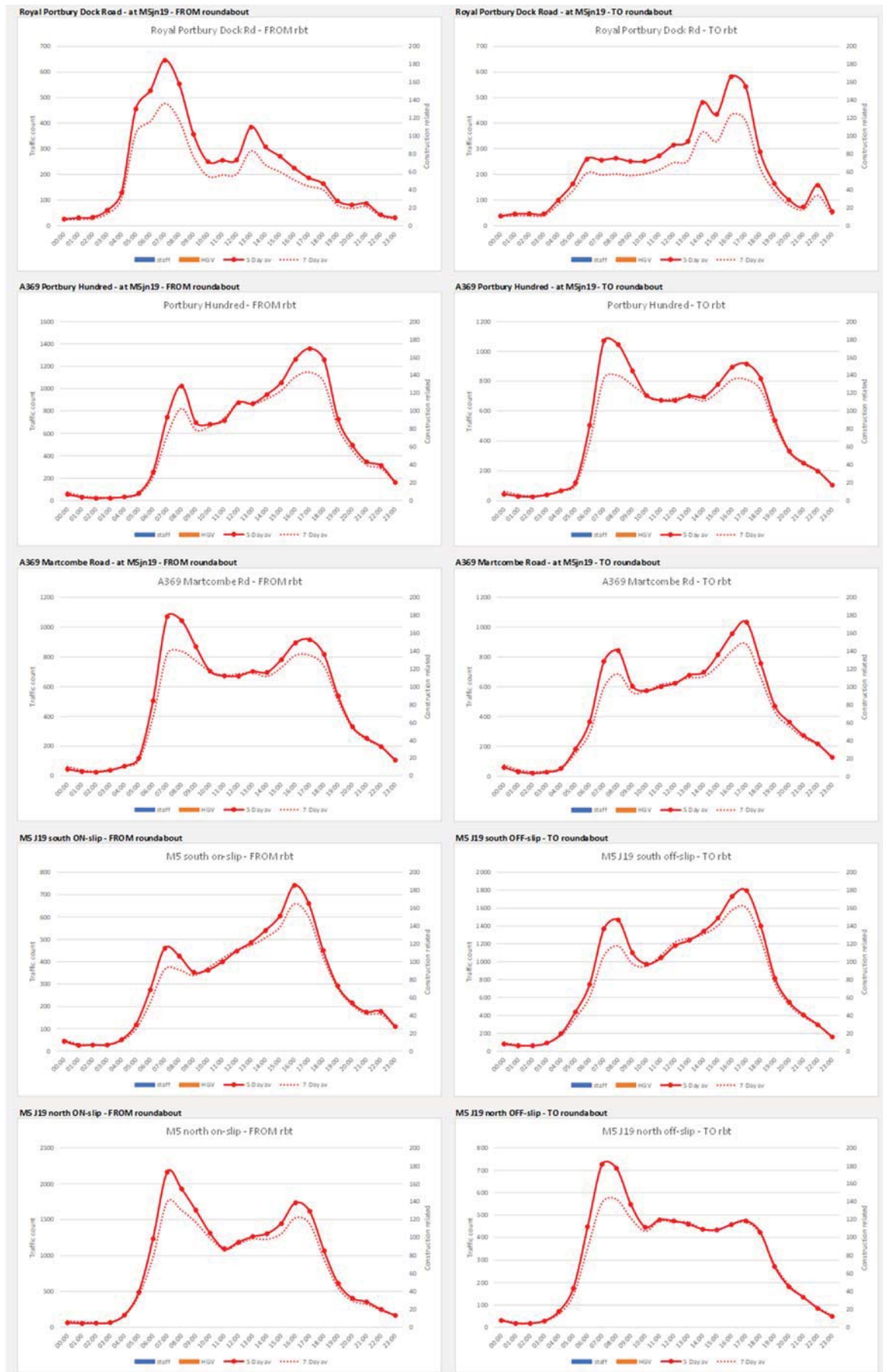




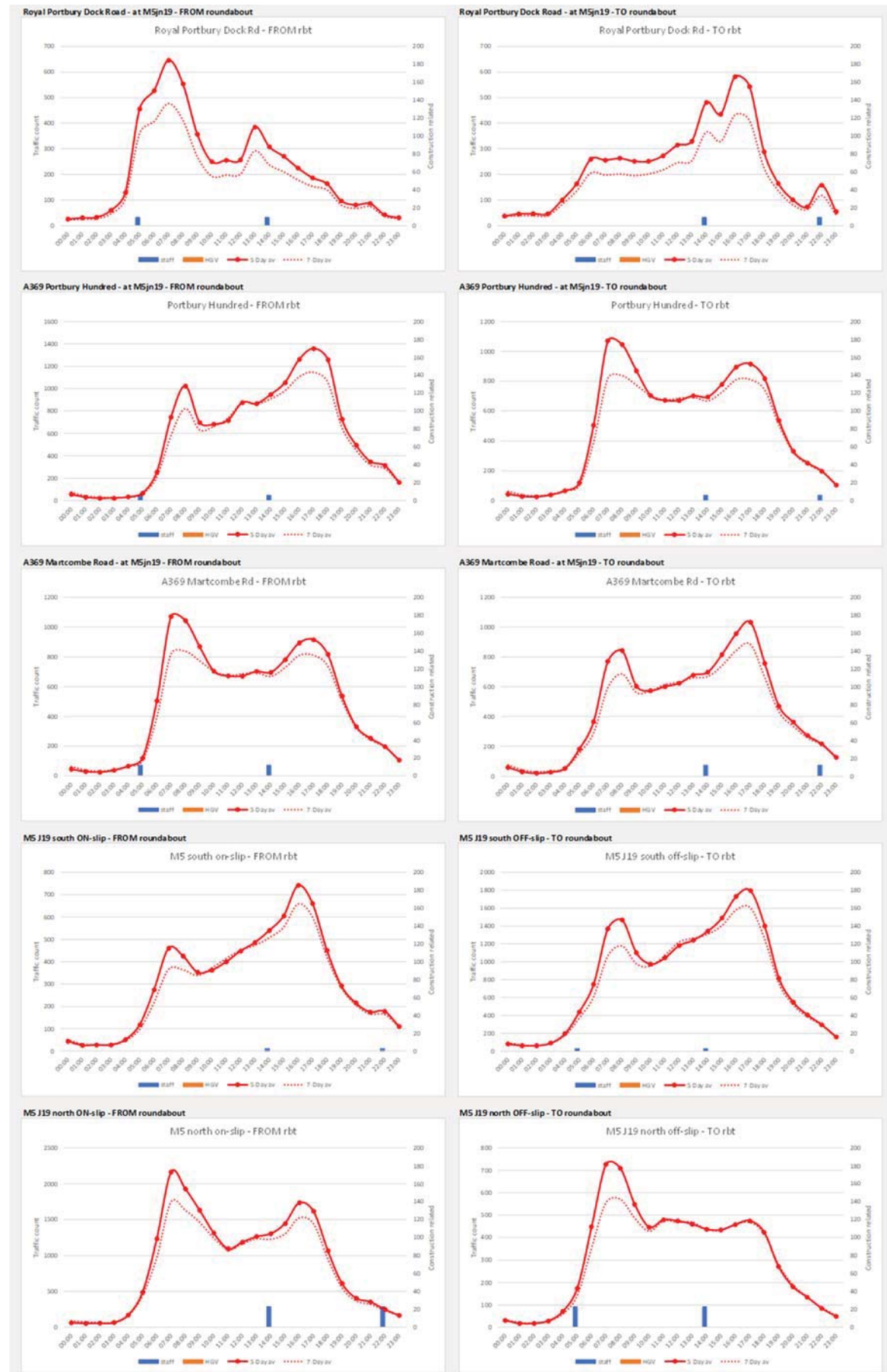
**AM peak hour, 08:00-09:00 – maximum period of activity, 300 operatives, two shifts per day**



IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives, single shift per day (one start time)

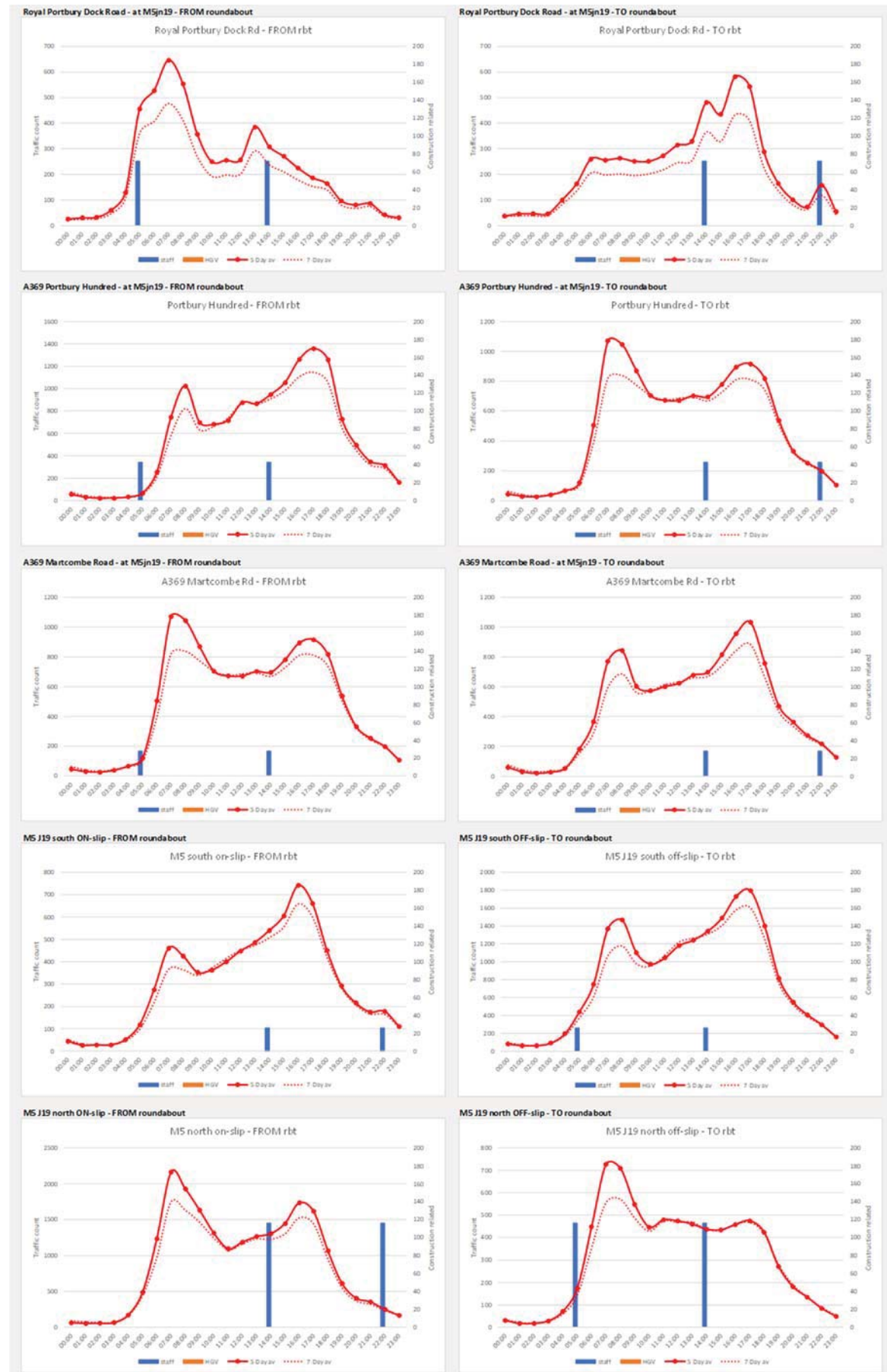


IP hour (average), 11:00-15:00 – maximum period of activity, 300 operatives, two shifts per day

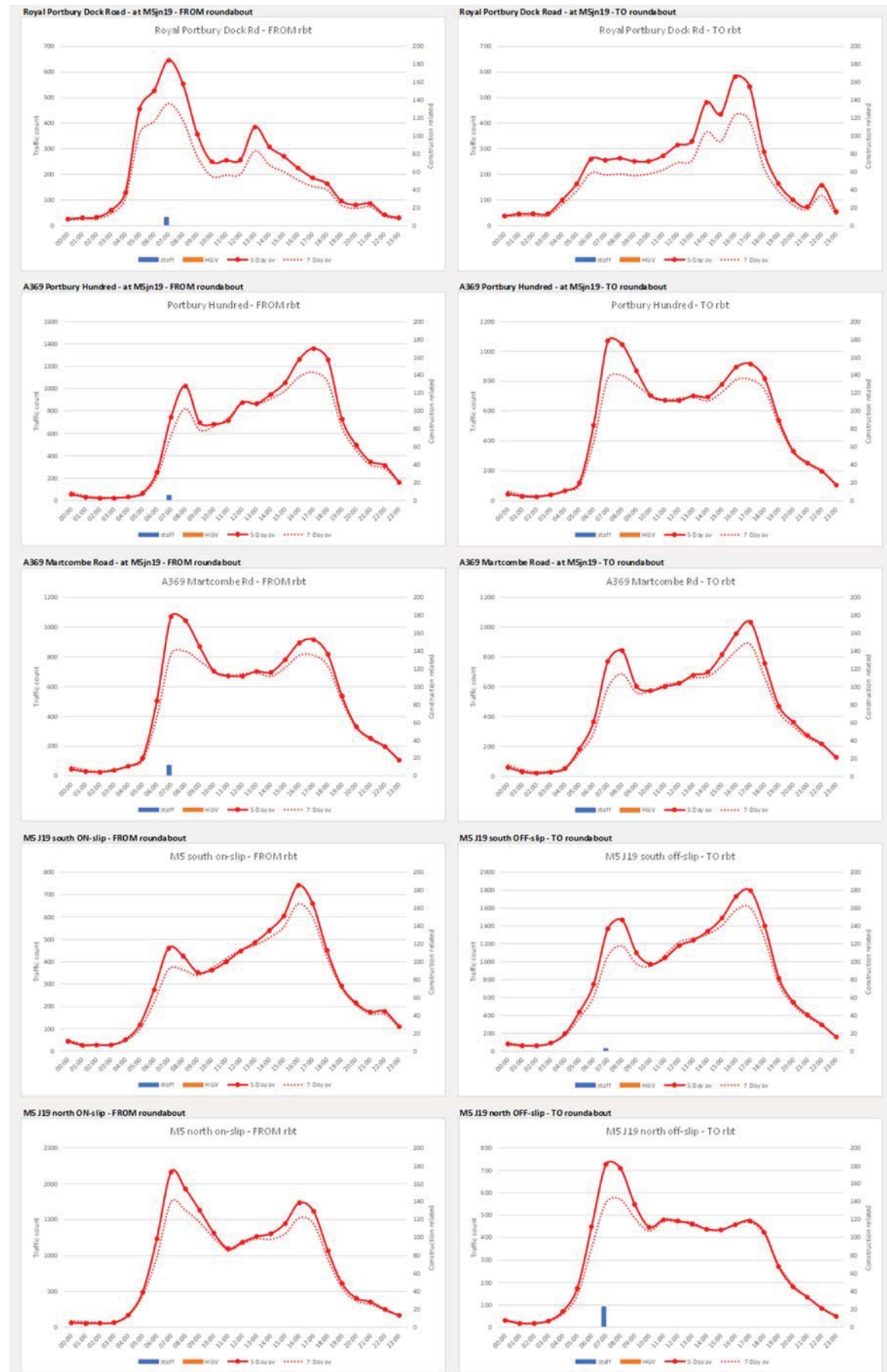




IP hour (shift changeover), 13:00-14:00 – maximum period of activity, 300 operatives, two shifts per day



**PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, single shift per day (one start time)**



**PM peak hour, 17:00-18:00 – maximum period of activity, 300 operatives, two shifts per day**

