

**For: Portal Asset Holdings Ltd.  
Port Road, Killarney**

# PROPOSED HOUSING DEVELOPMENT



# TRAFFIC & TRANSPORT ASSESSMENT

**April 2024**



**MHL & Associates Ltd.**  
**Consulting Engineers**



## Document Control Sheet

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**M.H.L. & Associates Ltd.**  
**Consulting Engineers**

Unit 1B  
The Atrium  
Blackpool  
Cork  
Tel 021-4840214  
E-Mail: [info@mhl.ie](mailto:info@mhl.ie)

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## 1 NON-TECHNICAL SUMMARY

M.H.L. & Associates Ltd. Consulting Engineers have been engaged by Portal Asset Holdings Ltd. to produce a Traffic & Transport Assessment to supplement a planning application for a residential development at Coollegrean, Port Road, Killarney, Co. Kerry.

Portal Asset Holdings Ltd. intend to apply for planning permission for a Large-Scale Residential Development (LRD) at Port Road and St Margaret's Road, Coollegrean, Inch, Knockreer, Ardnamweely, Derreen (townlands), Killarney, Co. Kerry.

The proposed development will consist of 224 no. units comprising 76 no. two storey houses (8 no. 2 bed units, 38 no. 3 bed units and 30 no. 4 bed units), 52 no. duplexes over 3 no. storeys (14 no. 1 bed units, 26 no. 2 bed units and 12 no. 3 bed units) and 96 no. apartments in 3 no. 4 no. storey buildings (16 no. 1 bed units and 80 no. 2 bed units), and a 2 no. storey creche (334 sq. m). Ancillary site works include public and communal open spaces, hard and soft landscaping, the relocation/undergrounding of ESB powerlines, wastewater infrastructure including foul pumping station, surface water attenuation, water utility services, public lighting, bin stores, bicycle stores, ESB substation, and all associated site development works.

Vehicular access to the development will be via a new entrance from Port Road. The proposed development includes upgrade works to Port Road, a pedestrian connection to Millwood Estate, and improvements to the stormwater network on St. Margaret's Road, as part of enabling infrastructure for the project.

See drawing Proposed Site Layout accompanying the application produced by Deady Gahan Architects for the layout of the development.

Traffic surveys were undertaken by a third-party traffic survey company, Tracsis PLC Transportation Surveys. These traffic counts allow for the assessment of existing traffic conditions on the local road network at the proposed development entrance and adjacent main road junctions, for the morning and evening peak traffic (07:00-10:00 in the AM and 16:00-19:00 in the PM). These traffic counts were recorded on Thursday the 19th of October 2017 and again on the 19<sup>th</sup> of January 2023. Both sets of traffic survey are referenced in this report but the most recent 2023 counts were utilised for traffic analysis and modelling purposes.

The scope of the TTA was agreed with Kerry County Council and broadly requires that the TTA should carry out the following:

- Carry out an assessment of pedestrian connectivity from the applicant site to the town centre, community facilities & local schools.
- Traffic assessment on three junctions in the vicinity of the site:
  - Proposed Residential Development Entrance onto Port Road (J1)
  - N72 Ballydowney Roundabout (J2)
  - Port Road/New Road Junction (J3)
- Traffic generation and trip distribution for the proposed development for the junctions J1, J2 and J3.

The methodology follows the TII Publication PE-PDV-02045, "Transport Assessment Guidelines" format.

In accordance with the Guidelines, a traffic analysis is required to be undertaken for the Base Year (2023), Opening Year (2025), five years from this date i.e., Opening Year+5 (2030) and fifteen years from this opening year date i.e., the Opening Year+15 (2040). This report describes the existing traffic conditions, estimates the future traffic generated by the proposed development and assesses the impact of this generated traffic on the surrounding road network.

A PICADY analysis was carried out on the various (2 No.) priority junctions in the vicinity of the proposed development and an ARCADY analysis was carried out on the N72 Ballydowney roundabout just north of the proposed development entrance, in accordance with the agreed scope with the local authority. This analysis presents the expected "Ratio of Flow to Capacity", "Level of Service" and "Queue Lengths" for the individual junctions. This analysis serves to outline the actual traffic impact of the increase in traffic flows resultant from the proposed development.

The Traffic and Transport Assessment Guidelines stipulate thresholds for transport assessments and are warranted when the "Traffic to and from the development exceed 5% of the traffic flow on the adjoining road where congestion exists, or the location is sensitive.

### **Junction J1- Proposed Estate Junction**

The proposed estate traffic volumes to and from the development comprise 14% of overall Port Road flows in the morning peak and 15% of overall junction flows in the evening peak, which are both above the minimum Traffic and Transport Assessment Guidelines threshold of 5% which is required to undertake a TTA. As the generated traffic from the development exceeds this threshold of 5% an assessment of the junction was undertaken.

The maximum RFC at the junction in the future design year scenario is 22%, which is significantly below the 85% capacity threshold. The maximum queue of 0.3 is very minor and will occur on the proposed internal estate road. This internal queuing is likely caused by the relatively high passing traffic volumes on Port Road in the AM peak. No further improvement measures will be required at the junction.

### **Junction J2- Ballydowney Roundabout Junction**

The proposed estate traffic volumes to and from the development are estimated to add **4%** to overall junction flows for the 2025 opening year morning peak and **4%** to overall junction flows for the 2023 opening year evening peak, which are both below the minimum Traffic and Transport Assessment Guidelines threshold of 5% for which it is ordinarily required to undertake a TTA. Therefore, the need for a transport assessment at this junction is not strictly required as the generated flows from the development are below this 5% threshold. Even though the generated traffic from the development is below this required threshold, an assessment of the junction was undertaken for completeness.

This analysis showed that the existing roundabout junction at Ballydowney in 2023 is operating below capacity, with the base year (2023) maximum RFC's for the morning peak reaching 76% and 67% for junction arms 4 and 1 respectively. The evening RFC's for the base year (2023) are less congested than the morning peak, with a maximum RFC of 72%, noted on Arm 1.

In the 2040 design year without development scenario, the roundabout demonstrates above capacity RFC's, notably higher than the 2023 base year RFC's. These higher RFC's are due to the predicated future traffic growth in background traffic volumes on the surrounding road network. In the analysis, it was assumed that no improvements to existing roundabout geometry/infrastructure would have taken place by 2040, providing a worst-case scenario. The RFC's modelled for 2040 without development and without any roundabout improvements therefore are high, reaching 93% and 85% for Arm 4 and Arm 1 respectively in the morning peak. The evening peak RFC's is less congested with just no arms over capacity, with an RFC of 81% estimated for Arm 1.

The need for junction improvements at this roundabout are evident for the Opening year morning and evening 2025 scenarios, being over capacity during in just the AM peak (for both the "with Development" and "without Development" scenarios). Future traffic growth will increase the saturation of the junction, exacerbating traffic queuing, junction delays and degrading the surrounding road network due to traffic congestion.

In 2040 design year with development scenario without a junction upgrade, the morning peak RFC's for Arm 1 is 90% and Arm 4 is 97%. For the evening peak, the RFC for Arm 1 is 85%, for Arm 3 is 68%. The increase in RFC comparing the "with Development" and "without Development" scenarios equates to an additional 4% RFC in the AM and 4% in the PM peak hour. The PM peak hour analysis indicates that the roundabout will operate below capacity for all design year scenarios.

### **Junction J3- Port Road/ New Road Junction**

The proposed estate traffic volumes to and from the development are expected to add 7% to overall junction flows in both the morning and evening peak which are just above the minimum Traffic and Transport Assessment Guidelines threshold of 5% for which it is ordinarily required to undertake a TTA. Therefore a transport assessment at this junction is required and has been carried out.

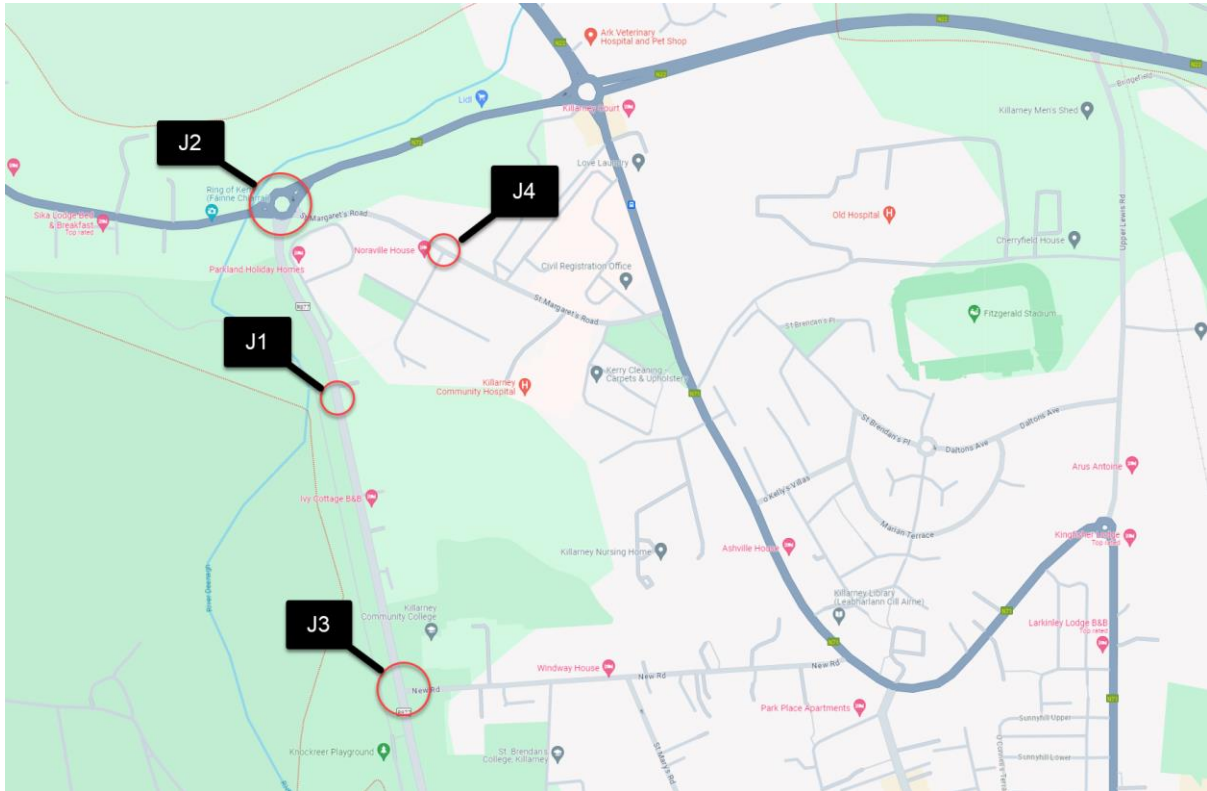
The maximum RFC in the AM peak was noted to be 40% for the 2040 for the with development scenario. The development is seen to increase RFC's by just 3% in this worst case movement. The junction is therefore seen to operate far below the available junction traffic capacity.

The Transport Assessment has therefore demonstrated that the proposed development will result in a minor increase in traffic volumes at the adjoining junction and will not have a significant effect on the road capacity of the local road network. The maximum RFC identified in the 2040 scenario at the Ballydowney Roundabout indicate that it will be operating in excess of its capacity. Estimated queue lengths associated with this scenario are not overly long though (15.4 vehicle queue). Any queue in excess of this

estimation is likely associated with the impact of queues and delays from adjoining junctions, such as the N22/N71/N72 Cleeny Roundabout.

## 2 EXISTING CONDITIONS

The development site is located to the northwest of Killarney town centre, along Port Road, approximately 1km from the High St. and Old Market Lane located in the town's centre. The site is situated on a greenfield with the red line boundary indicated as shown in Figure 2.1 below. The site's location in context of adjoining road junctions are also shown.



**Figure 2.1 Site location**

Traffic counts were undertaken by Tracsis Plc for both the morning and evening peak hour periods for Junctions shown in Figure 2.1 above. Traffic levels on Port Road, New Road and N72 are shown in Figures 9.1, 9.2, 9.3 & 9.4.

### 2.1 WIDER ROAD NETWORK

The surrounding road network of Killarney town comprises of Port Road, St. Margaret's Road (L3912), N72 and the N22 as shown in Figure 2.2.

Junctions appraised in this TTA are:

- Proposed Estate Entrance onto Port Road (J1)
- N72 Ballydowney Roundabout (J2)
- Port Road/ New Road (J3)
- Millwood Estate junction with St Margarets (J4)



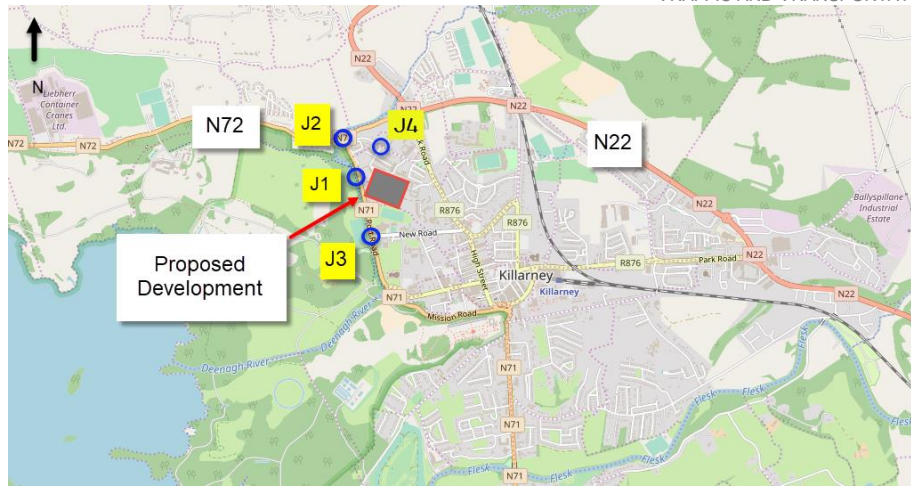


Figure 2.2 Proposed site location in relation to Killarney Town, including junction count locations.

### 3 PROPOSED DEVELOPMENT

The proposed development is to consist of 1No. creche, 76 No. houses, comprising of semidetached and townhouse units, 52 Duplex Units and 96 No. apartments on a 5-hectare site.

SCHEDULE OF ACCOMMODATION			
HOUSING			
UNIT TYPE		AREA	No. of UNITS
<b>A</b> 4 BED SEMI-DETACHED (7 PERSON)	A1	140.3 m <sup>2</sup> / 1,510 ft <sup>2</sup>	16
	A2	140.3 m <sup>2</sup> / 1,510 ft <sup>2</sup>	12
	A3	141.7 m <sup>2</sup> / 1,525 ft <sup>2</sup>	1
	A4	141.7 m <sup>2</sup> / 1,525 ft <sup>2</sup>	1
<b>TOTAL</b>			<b>30</b>
<b>B</b> 3 BED SEMI-DETACHED (5 & 6 PERSON)	B1 (6 person)	122.0 m <sup>2</sup> / 1,313 ft <sup>2</sup>	5
	B2 (5 person)	114.2 m <sup>2</sup> / 1,229 ft <sup>2</sup>	5
<b>TOTAL</b>			<b>10</b>
<b>C</b> 3 BED TOWNHOUSE (5 PERSON)	C1	108.2 m <sup>2</sup> / 1,165 ft <sup>2</sup>	1
	C2	104.4 m <sup>2</sup> / 1,124 ft <sup>2</sup>	15
	C3	101.6 m <sup>2</sup> / 1,094 ft <sup>2</sup>	12
<b>TOTAL</b>			<b>28</b>
<b>D</b> 2 BED TOWNHOUSE (4 PERSON)	D1	84.0 m <sup>2</sup> / 904 ft <sup>2</sup>	8
	<b>TOTAL</b>		<b>8</b>
<b>TOTAL NO. OF HOUSES</b>		<b>76 (33.9%)</b>	
DUPLIX / APARTMENTS (OWN DOOR)			
UNIT TYPE		AREA	No. of UNITS
<b>Block 01</b>	E1 - 2 Bed GF Apt. (3 person)	72.5 m <sup>2</sup> / 780 ft <sup>2</sup>	2
	E2 - 3 Bed Duplex Apt. (5 person)	109.4 m <sup>2</sup> / 1,178 ft <sup>2</sup>	2
	E3 - 2 Bed GF Apt. (3 person)	72.3 m <sup>2</sup> / 778 ft <sup>2</sup>	2
	E4 - 3 Bed Duplex Apt. (5 person)	106.2 m <sup>2</sup> / 1,143 ft <sup>2</sup>	2
<b>TOTAL</b>			<b>8</b>
<b>Block 02</b>	F3 - 2 Bed GF Apt. (3 person)	72.5 m <sup>2</sup> / 780 ft <sup>2</sup>	2
	F4 - 3 Bed Duplex Apt. (5 person)	105.7 m <sup>2</sup> / 1,138 ft <sup>2</sup>	2
<b>TOTAL</b>			<b>4</b>
<b>Block 03</b>	G1 - 2 Bed GF Apt. (3 person)	66.0 m <sup>2</sup> / 710.4 ft <sup>2</sup>	4
	G2 - 3 Bed Duplex Apt. (5 person)	98.8 m <sup>2</sup> / 1,063 ft <sup>2</sup>	4
	G3 - 1 Bed GF Apt. (2 person)	56.4 m <sup>2</sup> / 607 ft <sup>2</sup>	4
	G4 - 2 Bed Duplex Apt. (4 person)	82.6 m <sup>2</sup> / 889 ft <sup>2</sup>	4
	G5 - 2 Bed GF Apt. (3 person)	66.0 m <sup>2</sup> / 710.4 ft <sup>2</sup>	2
	G6 - 3 Bed Duplex Apt. (5 person)	98.8 m <sup>2</sup> / 1,063 ft <sup>2</sup>	2
<b>TOTAL</b>			<b>20</b>
<b>Block 04</b>	H1 - 1 Bed GF Apt. (2 person)	53.3 m <sup>2</sup> / 574 ft <sup>2</sup>	8
	H2 - 2 Bed Duplex Apt. (4 person)	85.7 m <sup>2</sup> / 922 ft <sup>2</sup>	8
	H3 - 1 Bed GF Apt. (2 person)	53.3 m <sup>2</sup> / 574 ft <sup>2</sup>	2
	H4 - 2 Bed Duplex Apt. (4 person)	85.7 m <sup>2</sup> / 922 ft <sup>2</sup>	2
<b>TOTAL</b>			<b>20</b>

APARTMENTS (BLOCKS J, K & L)			
<b>1 BED APARTMENTS</b>	(2 PERSON)	49.5 - 54.5 m <sup>2</sup> / 533 - 587 ft <sup>2</sup>	16
<b>2 BED APARTMENTS</b>	(4 PERSON)	74.7 - 82.4 m <sup>2</sup> / 804 - 887 ft <sup>2</sup>	80
<b>TOTAL NO. OF APARTMENTS</b>		<b>148 (66.1%)</b>	
<b>TOTAL NO. OF UNITS</b>		<b>224</b>	
<b>CRECHE</b>	<b>GROSS INTERNAL AREA:</b> 334.0 m <sup>2</sup> / 3,595 ft <sup>2</sup>	<b>GROSS AREA:</b> 383.3 m <sup>2</sup> / 4,125 ft <sup>2</sup>	46-child
<b>TOTAL SITE AREA (RED BOUNDARY)</b>		61,945 sq.m.   6,1945 HA   15.3 ACRES	
<b>NET DEVELOPABLE AREA (ORANGE BOUNDARY)</b>		47,500 sq.m.   4.75 HA   11.7 ACRES	
<b>DENSITY OF NET DEVELOPABLE AREA (224 units)</b>		47.1 UNITS/HA (224/4.75 HA)	
<b>USABLE OPEN SPACE</b>		13%	

Table 3.1 Development Breakdown

The proposed site layout is shown in Figure 3.1 below. As can be seen below the proposed site entrance is to tie into Port Road, at a location to the northwest of the site.



**Figure 3.1 Site Layout Plan showing the proposed estate entrance.**

## 4 TRIP GENERATION

TRICS is a well-established UK and Irish national database which holds in excess of 2,100 site locations and 4,700 survey counts with over 98 separate land use sub-categories. MHL & Associates Ltd. are one of over 230 worldwide licensed TRICS member organisations. The TRICS program was utilised for the land-use sub-category associated with the development proposal. The "Guidelines for Traffic and Transportation Assessments" state that for residential use the busiest hours are between 08:00-09:00 and 17:00-18:00.

The peak hour traffic flows on Port Road was estimated to be 08:00-09:00 and 17:00-18:00. Therefore, these hours were chosen to be assessed in this study. According to the TRICS database the busiest peak hour trip rates for the proposed development occur between 08.00-09.00 with Trip Rates of 0.65 per residential unit, proposed creche Trip Rate of 12.14 (per 100sqm GFA) and proposed Apartment Trip Rate of 0.22 followed by the PM peak of 17:00-18:00 with Trip Rates of 0.73 per residential unit, proposed creche Trip Rate of 10.86 (per 100sqm GFA) and proposed Apartment Trip Rate of 0.32. The traffic generation incorporates the 76No. houses, 148 No. apartments and 1No. creche.

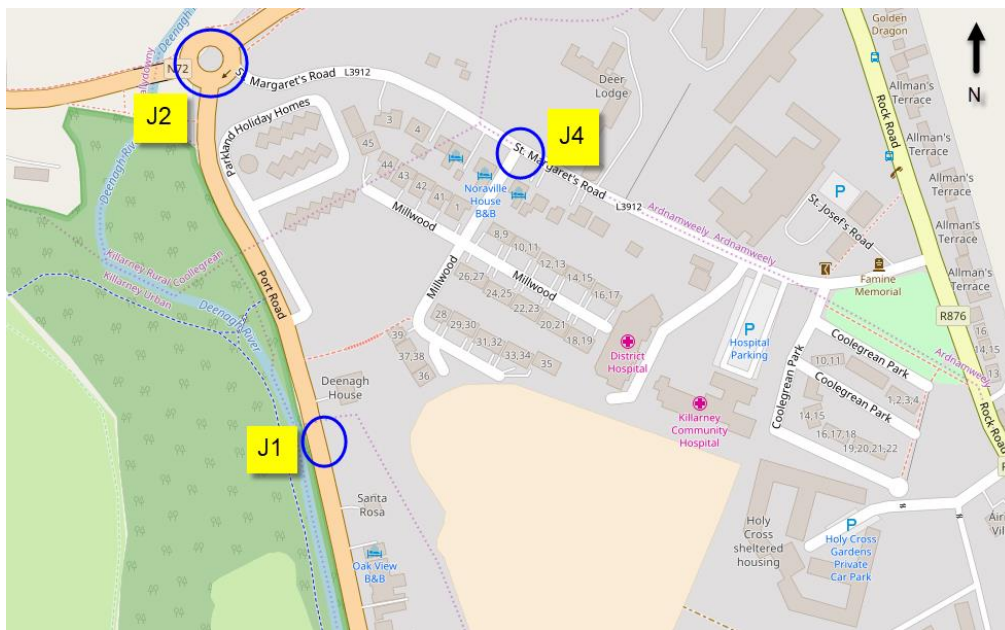
The full TRICS output, is included in Appendix B of this report and outlines the trip rates for a proposed development. A synopsis of the trip generation rates for the overall development are displayed in Figure 4.1 below. The table shows the development breakdown, the calculated trip rate and number of vehicle trips expected to be generated for the proposed development.

<b>Housing Unit No.</b>	<b>76</b>
<b>Apartment Unit No.</b>	<b>148</b>
<b>Creche GFA</b>	<b>334</b>

	AM PEAK		PM PEAK	
	Arrivals	Departures	Arrivals	Departures
<b>Housing</b>				
<i>Peak Trics Trip Rates (per unit)</i>	0.20	0.45	0.43	0.30
<i>Peak Trips (for 76 units)</i>	15	34	32	23
<b>Apartment</b>				
<i>Peak Trics Trip Rates (per unit)</i>	0.06	0.16	0.21	0.11
<i>Peak Trips (for 154 units)</i>	48	24	30	16
<b>Creche</b>				
<i>Peak Trics Trip Rates (100sqm Gross Floor Area)</i>	7.71	4.43	4.43	6.43
<i>Peak Trips (for 334sqm GFA)</i>	26	15	15	21
<b>Total Trips Generated</b>	<b>89</b>	<b>73</b>	<b>78</b>	<b>61</b>
	<b>162</b>		<b>138</b>	

**Figure 4.1 Proposed Residential Estate generated Trips- Morning and Evening (Arrival/Departure)**

A manual traffic count (MTC) was also undertaken by MHL at the existing junction at Millwood Estate entrance (J4) along St. Margaret’s Road. This existing estate is located northeast of the proposed development site, as shown in Figure 4.2. This MTC was undertaken to provide a local trip rate reference source. These MTC figures provide a source of local trip rates that would be similar to those generated by proposed development. These associated trips rates can be inferred due to the close geographical proximity between the two sites. These local trip rates can be utilised to verify the TRICs generated Trip Rates for the proposed development, comparing the TRICs rate to those of the reference estate trips counted within the Killarney town environs.



**Figure 4.2 J4 Existing insitu reference entrance for comparative trip rate analysis) (Arrival/Departure)**

The associated trip rates established from the existing estate’s traffic count were as follows:

<b>Housing Unit No.</b>	<b>35</b>			
	<b>AM PEAK</b>		<b>PM PEAK</b>	
	<b>Arrivals</b>	<b>Departures</b>	<b>Arrivals</b>	<b>Departures</b>
<b>Housing</b>				
<b>Total Trips</b>	<b>16</b>		<b>14</b>	
<b>Peak Trips (for 35units)</b>	<b>7</b>	<b>9</b>	<b>7</b>	<b>7</b>
<b>Peak Trips Trip Rates (per unit)</b>	<i>0.20</i>	<i>0.26</i>	<i>0.20</i>	<i>0.20</i>

**Figure 4.3 Proposed Residential Estate generated Trips- Morning and Evening (Arrival/Departure)**

The trip rates estimated from TRICs are higher than the existing MTC Trip Rate calculated above in Figure 4.3. These higher TRICs Trips rates provide more conservative traffic generation figures, producing a more robust analysis for the development. The TRICs Rate and associated traffic congestion was therefore utilised in this assessment.

The MTC Traffic counts sheets are presented in Appendix D of this report.

## 5 TRAFFIC FORECASTING

The base year is the year the traffic counts were undertaken which was 2023. The opening year of expected completion for the development is taken to be 2025. In accordance with the Guidelines for Traffic and Transportation Assessments as published by the NRA, a traffic analysis is required to be undertaken for the Base Year – 2023, Opening Year -2025, Opening Year plus five from this date i.e., 2030, plus fifteen years from this date i.e., the Opening Year +15 - 2040.

The growth of traffic from the development will be expected to remain stagnant over the period 2024 to 2034 as no new development will take place within the site. Furthermore, it is expected that more sustainable travel modes will become more popular, as per government and National Transport Authority convictions.

The Transport Infrastructure Ireland publication “Project Appraisal Guidelines for National Roads Units 5.3,” was used to calculate growth factors for the road network traffic. Table 5.1 below shows the calculated growth factors to convert from 2023 to 2025 to be 1.022, 2023 to 2030 to be 1.079 and from 2023 to 2040 to be 1.1 respectively.

			Cars/LGV	HGV	Combined
Count %			95%	5%	
<b>2023</b>	<b>to</b>	<b>2025</b>	1.021	1.048	<b>1.022</b>
<b>2023</b>	<b>to</b>	<b>2030</b>	1.074	1.178	<b>1.079</b>
<b>2023</b>	<b>to</b>	<b>2040</b>	1.086	1.369	<b>1.100</b>
NRA Project Appraisal Guidelines- 5.5 forecasting					
Appendix 3 - Guidance on traffic modelling					

**Table 5.1: Future Growth Rates for Base Year, Opening Year +5 & Opening Year+15 (2023 to 2040)**

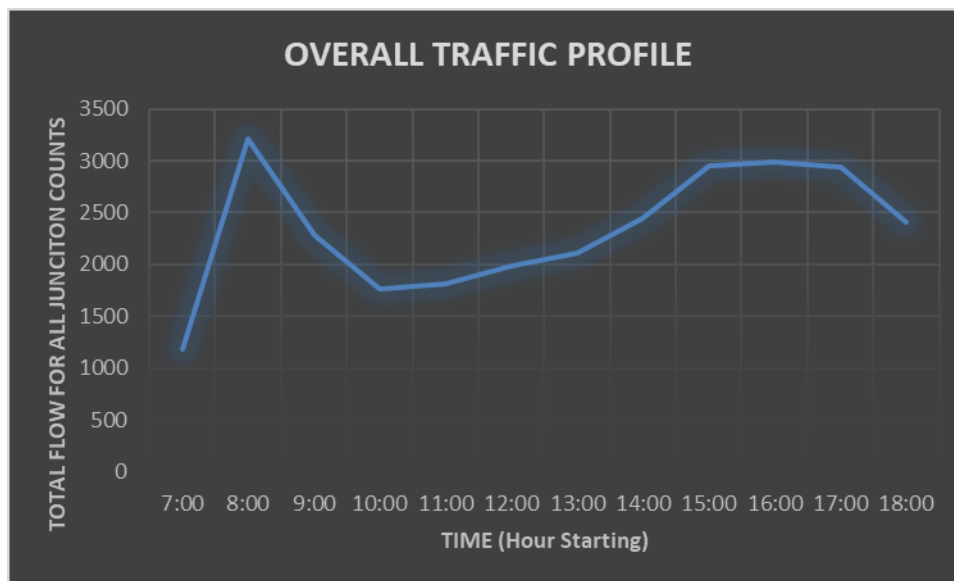
The effects of traffic growth on the existing network plus the additional traffic generated by the proposed development, have been compiled to build junction matrices/diagram of the affected junctions as outlined in Figure 9.1 to Figure 9.5 for the Base Year 2023 scenarios.

The with development /without development junction diagrams for Opening Year 2025, Opening Year+5 2030 and Opening Year+15 2040 are shown in Figure 9.6 through to Figure 9.11.

## 6 MODAL SPLIT

In predicting the level of traffic that will be generated by the proposed development, the mode of transport (modal choice) and quantity of traffic generated (trip attraction) must be considered.

This is a residential housing development, and it is therefore assumed that traffic will have its greatest impact during morning and evening peak hours, 8:00 – 09:00 and 17:00 – 18:00 when traffic reaches its highest flow where the network is the most saturated.



**Figure 6.1: Traffic Profile for local road network showing peak traffic periods**

## 7 TRIP DISTRIBUTION

The current distribution of traffic on the development was used to determine directional split to and from the proposed development. The current distribution is shown below in Fig 9.4. This peak hour directional split pattern is assumed to remain constant with the passage of time.

## 8 TRIP ASSIGNMENT

The proposed development will generate traffic as outlined in Sections 4,5 & 6; the distribution of generated traffic is as outlined in Section 7 of this report. Figures 9.6 to 9.11 show the projected traffic movements on the existing traffic network for the Opening year 2025 AM & PM, Opening Year +5 in 2030 for AM & PM and Opening Year +15 in 2040 for AM & PM. Traffic models were produced for each of these scenarios both with the full development and without any development. These models incorporate the existing thru traffic on the network, factored up along with predicted development traffic and future network traffic increases as described earlier.

## 9 ASSESSMENT

### 9.1 CURRENT YEAR TRAFFIC PATTERNS

The existing network is modelled with existing traffic flow directions. Base year with entry/ exit flow conditions as indicated in the matrices below.

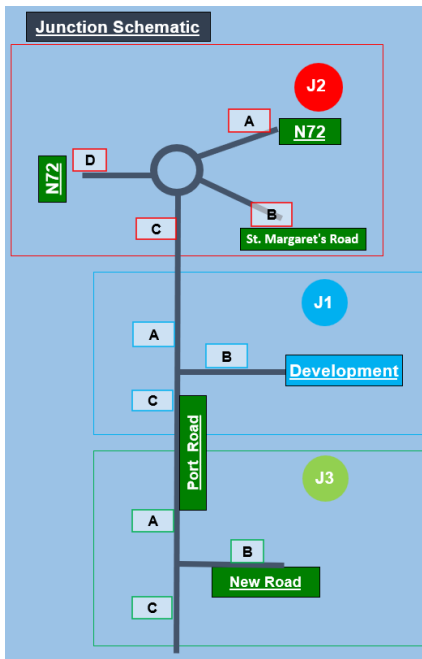


Figure 9.1: Junction Schematic showing modelling naming order

2023 (Base Year)	AM PEAK (08.15 - 09.15)					PM PEAK (17.00 - 18.00)				
	O/D	A	B	C	TOT	O/D	A	B	C	TOT
	A	-	0	782	782	A	-	0	424	424
	B	0	-	0	0	B	0	-	0	0
	C	313	0	-	313	C	392	0	-	392
	TOT	313	0	782	1095	TOT	392	0	424	816

Figure 9.2: Base Year AM & PM Peak Hour Traffic Flows- Junction 1

2023 (Base Year)	AM PEAK (08.00 - 09.00)						PM PEAK (17.00 - 18.00)					
	O/D	A	B	C	D	TOT	O/D	A	B	C	D	TOT
	A	-	2	382	263	647	A	-	7	200	452	659
	B	6	-	64	89	159	B	2	-	16	97	115
	C	142	11	-	159	312	C	103	27	-	261	391
	D	384	117	335	-	836	D	256	130	207	-	593
	TOT	532	130	781	511	1954	TOT	361	164	423	810	1758

Figure 9.3: Base Year AM & PM Peak Hour Traffic Flows- Junction 2

2023 (Base Year)	AM PEAK (08.00 - 09.00)				PM PEAK (17.00 - 18.00)					
	O/D	A	B	C	TOT	O/D	A	B	C	TOT
	A	-	272	511	783	A	-	48	363	411
	B	10	-	20	30	B	63	-	59	122
	C	298	112	-	410	C	328	25	-	353
	TOT	308	384	531	1223	TOT	391	73	422	886

Figure 9.4: Base Year AM & PM Peak Hour Traffic Flows- Junction 3



The traffic count figures in Figure 9.5 show the existing directional splits in traffic flows on the road network that circulates the development site.

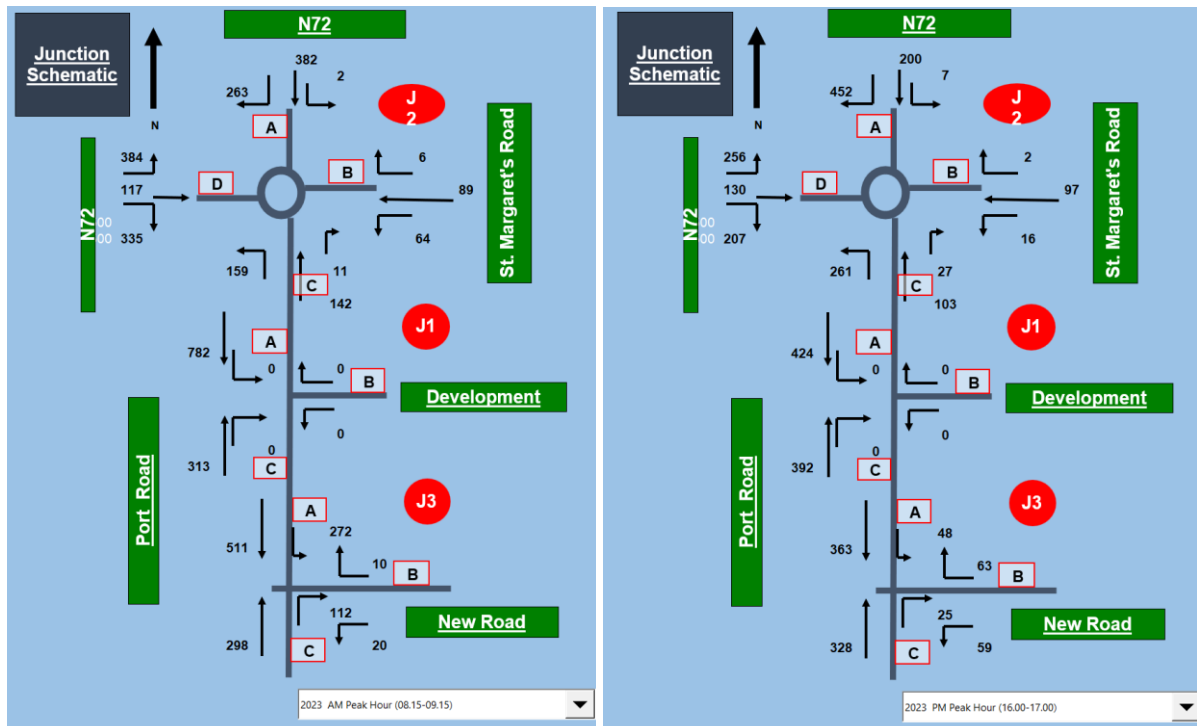


Figure 9.5 Existing (2023) AM & PM peak period junction flows.

#### Junction 1

- As can be seen in the figure above, the existing main AM traffic flow passing the estate entrance is towards the south with approximately 70% of passing traffic travelling south/ 30% travelling northwards. This traffic split evens out for the PM split with 52% travelling south and 48% travelling north.

#### Junction 2

- For both AM and PM peaks, the overall quantum passing through the junction is similar with 1954 vehicles utilising the junction during the morning period and 1758 vehicles utilising the junction during the evening period. The percentage split of each arm traveling to C and then south along Port Road is as follows:

As can be seen, the maximum traffic loading from Ballydowney Roundabout on ARM C (exit) occurs in the morning peak, with 382 vehicle approaching from the N72 East and 335 vehicles approaching from the N72 west.

#### Junction 3

- Morning traffic through the junction is dominated by inbound (southbound) traffic, with approximately a third of all southbound traffic turning into New Road in the AM peak. This points to school traffic as being a very significant proportion of traffic on the wider network. PM peak hour flows are more evenly balanced.

### 9.2 FUTURE YEAR TRAFFIC PATTERNS

The estimated future year network traffic flows are set out in the following Figures 9.5 to 9.11.

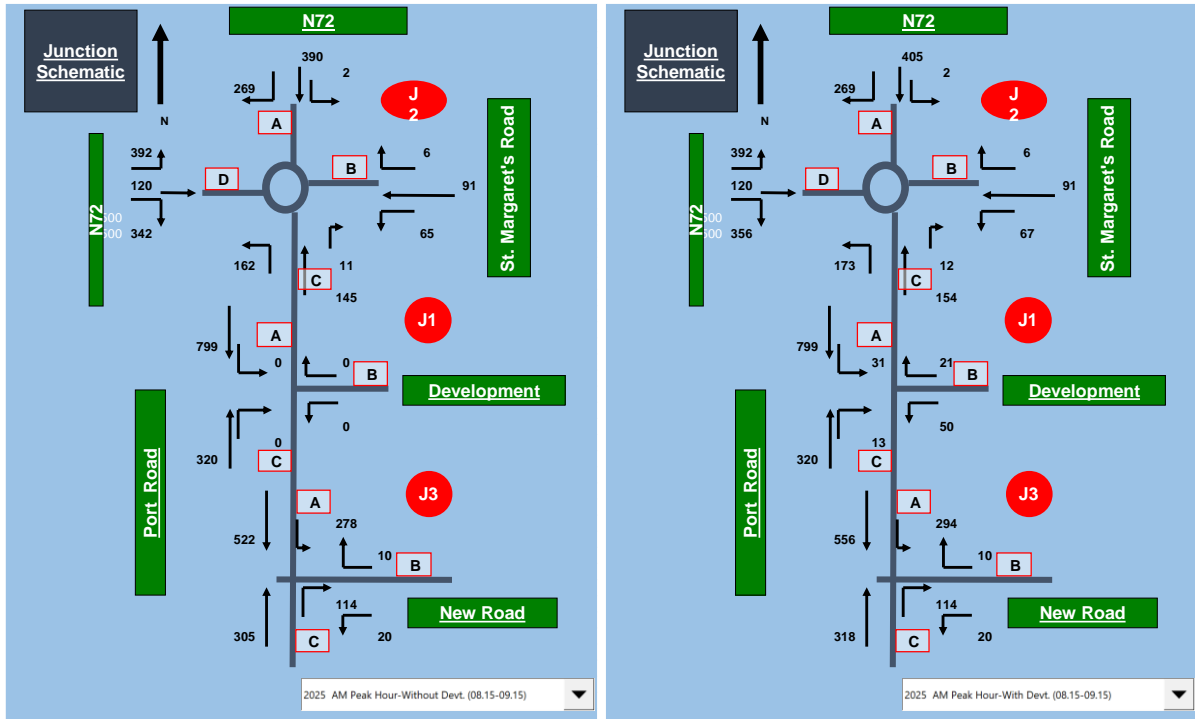


Figure 9.6: 2025, Opening Year AM Peak Hour Traffic Flows (Without Devt/ With Devt.)

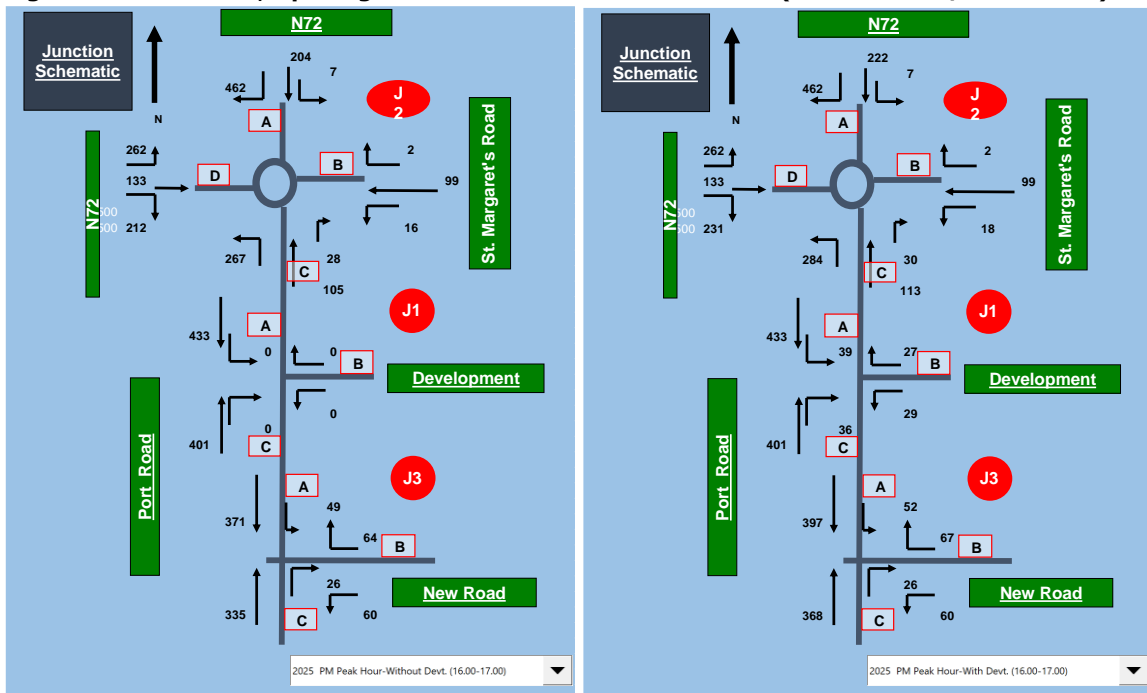


Figure 9.7: 2025, Opening Year PM Peak Hour Traffic Flows (Without Devt/ With Devt.)

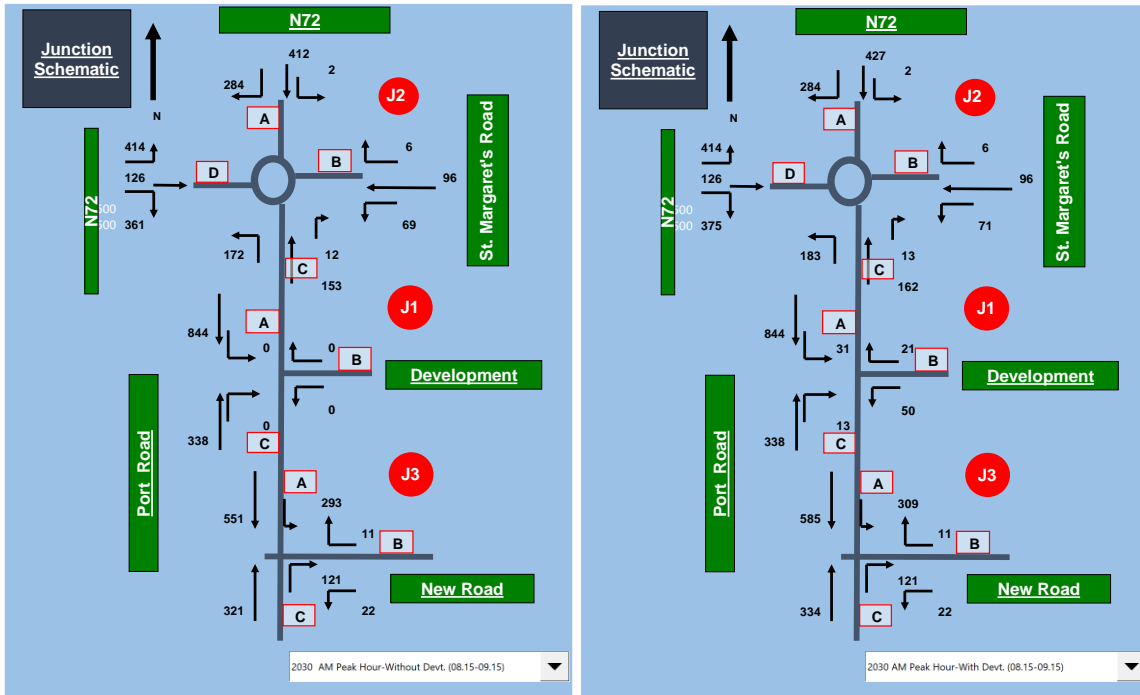


Figure 9.8: 2030, Opening Year+5, AM Peak Hour Traffic Flows (Without Devt/ With Devt.)

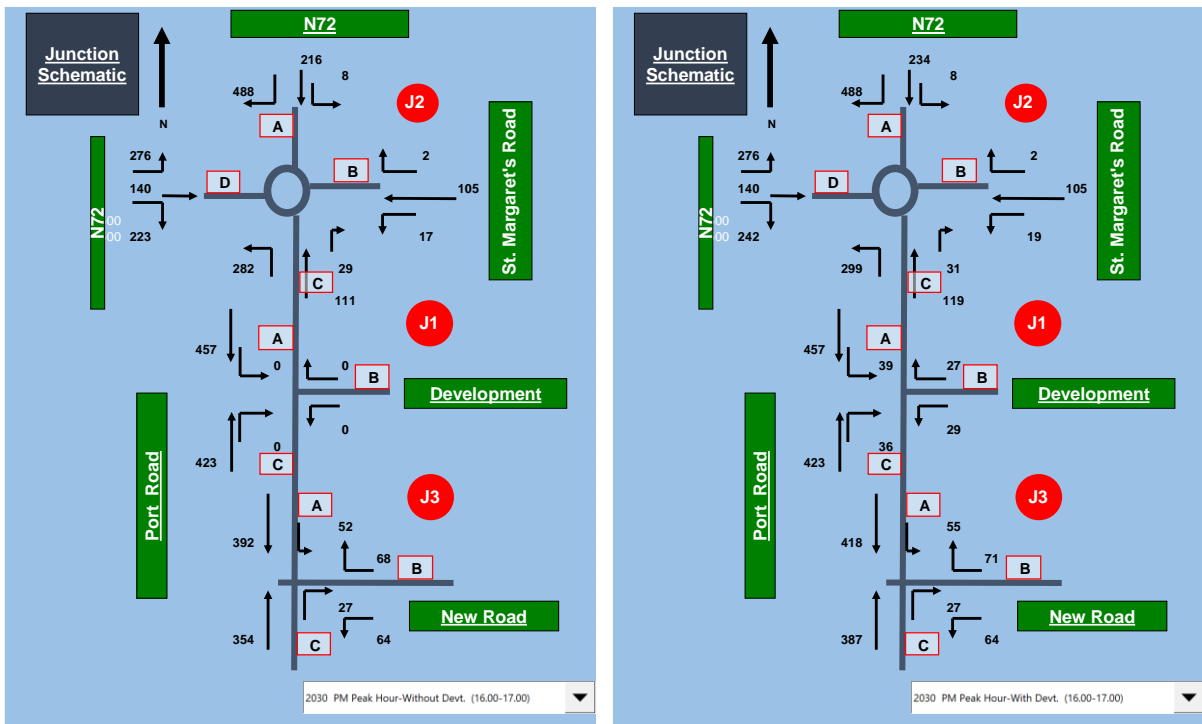


Figure 9.9: 2030, Opening Year+5, PM Peak Hour Traffic Flows (Without Devt/ With Devt.)

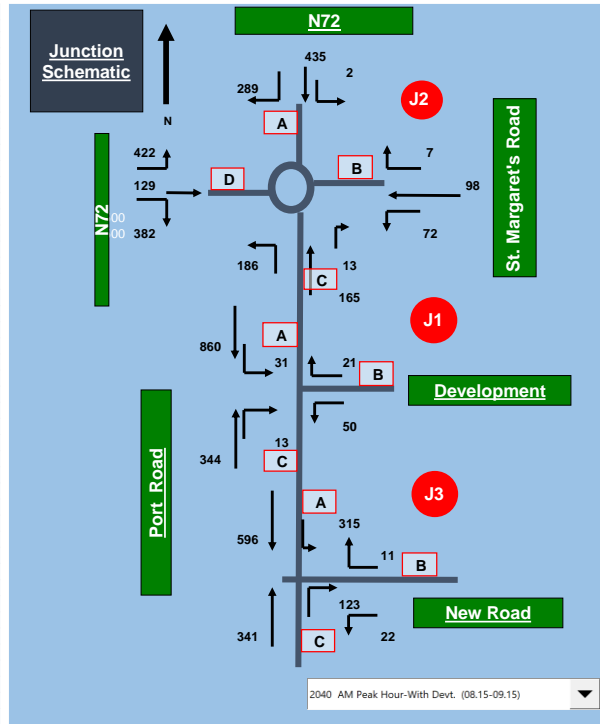
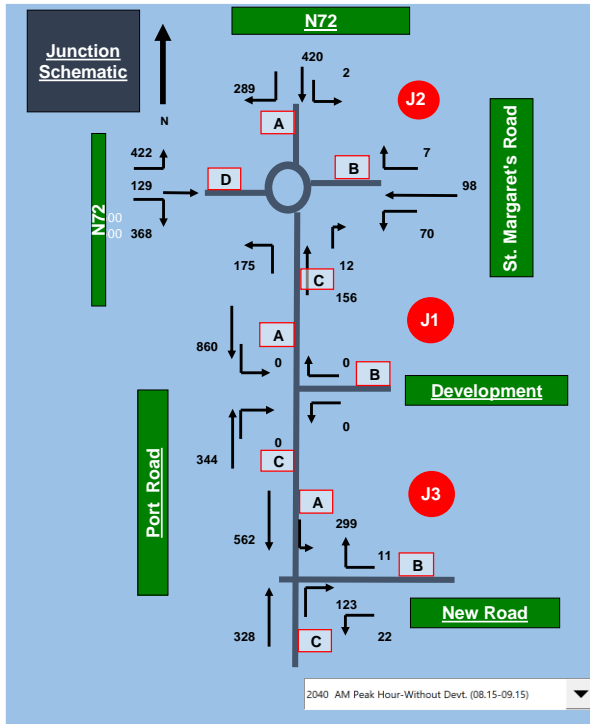


Figure 9.10: 2040, Opening Year+15, AM Peak Hour Traffic Flows (Without Devt/ With Devt.)

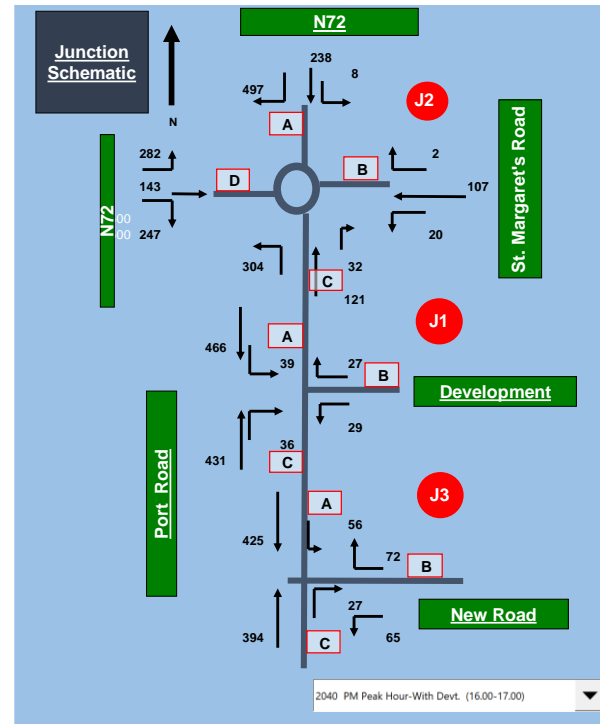
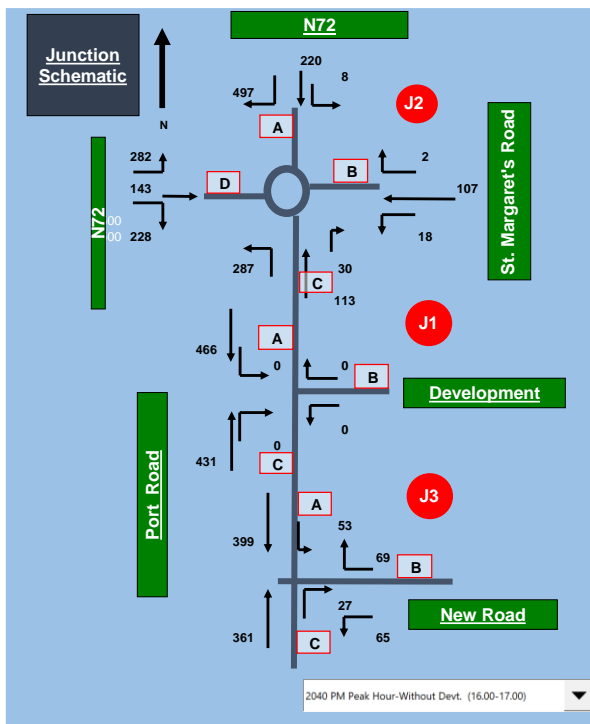
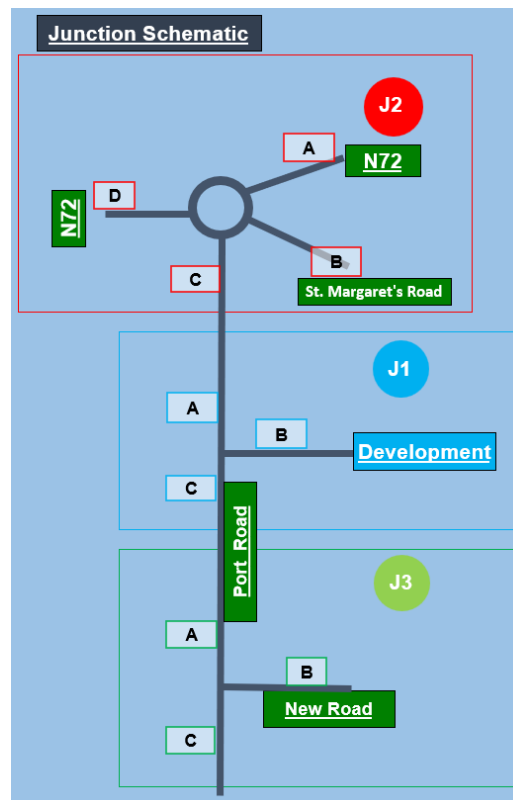


Figure 9.11: 2040, Opening Year+15, PM Peak Hour Traffic Flows (Without Devt/ With Devt.)

## 10 ROAD IMPACT

In order to assess the capacity of the proposed development junction and adjoining network junction, traffic models of the junctions along Spa Road have been produced using traffic modelling software PICADY 9 (Priority Intersection Capacity and Delay) and ARCADY9 (Assessment of Roundabout Capacity and Delay). The output movements from the models are based on the assigned junction arms. The arms are designated A to C for T-junctions and A TO D for the 4 arm roundabout, as shown below.



**Figure 10.1 Junction Arm Turning Labels**

The output result sheets from JUNCTIONS 9 traffic modelling software (PICADY 9 and ARCADY 9) consist of tables of demand flow, capacities, queues, and delays for each 15-minute time segment of the peak hour analysis. These tables contain start and finish times of each arm, traffic demand, 'Ratio of Flow to Capacity' (RFC), start queue length and queueing delay.

The RFC provides the basis for judging the acceptability of junction design and the capacity of existing junctions. An RFC of 0.85 or less is considered acceptable during the peak period. An RFC of this value indicates that at peak times the junction is at 85% of its operational capacity and therefore has a practical reserve capacity at a junction required to cater for periods of unusually high traffic flow, such as bank holiday weekends, etc. The degree of saturation of a junction is a measure of the capacity of the junction. A junction with an RFC of 0.85 would be considered to be operating at a degree of saturation of 100%.

The following are the results of the traffic model analysis for the peak hours 8:00-09:00 and 17:00-18:00 for the base year and future opening years. See Appendix A for the full PICADY and ARCADY output data.

### 10.1 PICADY & ARCADY ANALYSIS CONCLUSIONS

The following summary junction performance tables for J1, J2 and J3 describe each of the junctions RFC's, Delay and Queue values for both morning and evening peaks for all design scenarios, namely 2023,2025,2030 and 2040.

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023 Existing</b>										
Stream B-AC	D1	0	0	0	A	D2	0	0	0	A
Stream C-AB		0	0	0	A		0	0	0	A
<b>2025 Without devt</b>										
Stream B-AC	D3	0	0	0	A	D5	0	0	0	A
Stream C-AB		0	0	0	A		0	0	0	A
<b>2025 With devt</b>										
Stream B-AC	D4	0.3	13.13	0.21	B	D6	0.2	9.48	0.15	A
Stream C-AB		0.2	6.45	0.09	A		0.2	5.14	0.11	A
<b>2030 Without devt</b>										
Stream B-AC	D7	0	0	0	A	D9	0	0	0	A
Stream C-AB		0	0	0	A		0	0	0	A
<b>2030 With devt</b>										
Stream B-AC	D8	0.3	12.89	0.22	B	D10	0.2	9.75	0.15	A
Stream C-AB		0.2	6.36	0.1	A		0.2	5.1	0.11	A
<b>2040 Without devt</b>										
Stream B-AC	D11	0	0	0	A	D13	0	0	0	A
Stream C-AB		0	0	0	A		0	0	0	A
<b>2040 With devt</b>										
Stream B-AC	D12	0.3	13.16	0.22	B	D14	0.2	9.85	0.15	A
Stream C-AB		0.2	6.35	0.1	A		0.3	5.08	0.11	A

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

**Figure 10.2 J1 Junction RFC for Base year, Opening Year, Opening Year +5 & Opening Year +15 (With /Without Development)**

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
<b>2023</b>										
Arm 1	D1	2	11.19	0.67	B	D2	2.6	13.02	0.72	B
Arm 2		0.3	6.98	0.24	A		0.2	6.36	0.18	A
Arm 3		0.5	5.52	0.32	A		1	8.75	0.51	A
Arm 4		3.1	13.59	0.76	B		1.4	7.91	0.59	A
<b>2025 without devt.</b>										
Arm 1	D3	3.3	16.89	0.78	C	D9	2.8	14.06	0.74	B
Arm 2		0.4	8.26	0.29	A		0.2	6.51	0.19	A
Arm 3		0.6	6.08	0.37	A		1.1	9.11	0.53	A
Arm 4		5.7	23.15	0.86	C		1.5	8.22	0.6	A
<b>2025 with devt.</b>										
Arm 1	D4	4.4	21.8	0.83	C	D10	3.3	16.1	0.77	C
Arm 2		0.5	9.03	0.32	A		0.2	6.8	0.2	A
Arm 3		0.7	6.36	0.4	A		1.3	9.91	0.57	A
Arm 4		7.4	29.21	0.89	D		1.7	8.75	0.63	A
<b>2030 without devt.</b>										
Arm 1	D5	4.6	22.45	0.83	C	D11	3.7	17.71	0.8	C
Arm 2		0.5	9.1	0.32	A		0.3	6.95	0.21	A
Arm 3		0.7	6.43	0.4	A		1.3	10.18	0.57	B
Arm 4		8.8	34.07	0.91	D		1.7	9.03	0.64	A
<b>2030 with devt.</b>										
Arm 1	D6	6.4	30.81	0.88	D	D12	4.5	21.06	0.83	C
Arm 2		0.5	9.99	0.35	A		0.3	7.26	0.22	A
Arm 3		0.7	6.71	0.42	A		1.5	11.18	0.61	B
Arm 4		12.2	45.87	0.95	E		1.9	9.7	0.66	A
<b>2040 without devt.</b>										
Arm 1	D7	5.2	25.3	0.85	D	D13	4.2	19.52	0.81	C
Arm 2		0.5	9.45	0.34	A		0.3	7.13	0.22	A
Arm 3		0.7	6.55	0.41	A		1.4	10.62	0.58	B
Arm 4		10.7	40.71	0.93	E		1.9	9.43	0.65	A
<b>2040 with devt.</b>										
Arm 1	D8	7.5	35.61	0.9	E	D14	5.1	23.52	0.85	C
Arm 2		0.6	10.39	0.36	B		0.3	7.45	0.23	A
Arm 3		0.8	6.85	0.43	A		1.6	11.71	0.62	B
Arm 4		15.4	55.87	0.97	F		2	10.13	0.68	B

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

**Figure 10.3 J2 Junction RFC for Base year, Opening Year, Opening Year +5 & Opening Year +15 (With /Without Development)**

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023 Existing</b>										
Stream B- C	D1	0	7.73	0.04	A	D2	0.2	8.65	0.12	A
Stream B- A		0.1	16.9	0.04	C		0.3	13.24	0.19	B
Stream C- A		0.8	8.08	0.32	A		0.1	5.17	0.06	A
<b>2025 Without devt</b>										
Stream B- C	D3	0	7.8	0.04	A	D5	0.2	8.73	0.13	A
Stream B- A		0.1	17.27	0.05	C		0.3	13.47	0.19	B
Stream C- A		0.8	8.2	0.33	A		0.1	5.17	0.06	A
<b>2025 With devt</b>										
Stream B- C	D4	0.1	8.05	0.05	A	D6	0.2	9.13	0.13	A
Stream B- A		0.1	18.48	0.05	C		0.3	14.23	0.22	B
Stream C- A		0.9	8.34	0.35	A		0.1	5.12	0.06	A
<b>2030 Without devt</b>										
Stream B- C	D7	0.1	8.02	0.05	A	D9	0.2	9.01	0.14	A
Stream B- A		0.1	18.45	0.05	C		0.3	14.18	0.21	B
Stream C- A		1	8.63	0.36	A		0.1	5.15	0.07	A
<b>2030 With devt</b>										
Stream B- C	D8	0.1	8.29	0.05	A	D10	0.2	9.42	0.14	A
Stream B- A		0.1	19.86	0.06	C		0.3	15.02	0.24	C
Stream C- A		1.1	8.82	0.38	A		0.1	5.09	0.07	A
<b>2040 Without devt</b>										
Stream B- C	D11	0.1	8.09	0.05	A	D13	0.2	9.09	0.14	A
Stream B- A		0.1	18.9	0.05	C		0.3	14.41	0.22	B
Stream C- A		1.1	8.78	0.37	A		0.1	5.14	0.07	A
<b>2040 With devt</b>										
Stream B- C	D12	0.1	8.42	0.05	A	D14	0.2	9.52	0.15	A
Stream B- A		0.1	20.08	0.06	C		0.3	15.3	0.24	C
Stream C- A		1.2	9	0.4	A		0.1	5.08	0.07	A

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

**Figure 10.6 J3 Junction RFC for Base year, Opening Year, Opening Year +5 & Opening Year +15 (With /Without Development)**



JUNCTION	YEAR	DEVT.		TIME SCENARIO	MAX RFC	QUEUE
J1	2040	WITH DEVT.	B-AC	AM	22%	0.3
J1	2040	WITHOUT DEVT.	B-AC	AM	0%	0.0
					22% increase *	
J1	2040	WITH DEVT.	B-AC	PM	15%	0.2
J1	2040	WITHOUT DEVT.	B-AC	PM	0%	0.0
					15% increase *	
J2	2040	WITH DEVT.	ARM 4	AM	97%	15.4
J2	2040	WITHOUT DEVT.	ARM 4	AM	93%	10.7
					4% increase	
J2	2040	WITH DEVT.	ARM 1	PM	85%	5.1
J2	2040	WITHOUT DEVT.	ARM 1	PM	81%	4.2
					4% increase	
J3	2040	WITH DEVT.	C-AB	AM	40%	1.1
J3	2040	WITHOUT DEVT.	C-AB	AM	37%	1.2
					3% increase	
J3	2040	WITH DEVT.	B-C	PM	24%	0.3
J3	2040	WITHOUT DEVT.	B-C	PM	22%	0.3
					2% increase	
* Comparison in this instance between straight ahead Port Road with no junction vs the “with development” Port Road with new access junction.						

Table 10.1 Summary of Maximum RFC (AM/PM) modelled for each junction (with/without development scenarios.)

### Junction J1- Proposed Estate Junction

Maximum increase of 22% in RFC at the junction, resultant from the proposed development. The maximum RFC of 22% is well below the 85% threshold. The maximum queue of 0.3 vehicles is very minor and will occur on the internal estate road.

### Junction J2- Ballydowney Roundabout Junction

The maximum RFC occurs in the AM peak 97% for the with development scenario. The maximum RFC in the AM peak is 93% for the without development scenario. Maximum increase of 4% in RFC at the junction resultant from the proposed development.

### Junction J3- Port Road/ New Road Junction

The maximum RFC occurs in the AM peak 40% for the with development scenario. The maximum RFC in the AM peak is 37% for the without development scenario. Maximum increase of 3% in RFC at the junction resultant from the proposed development.

## 11 CUMULATIVE IMPACT

The cumulative impact of the scheme on the surrounding roads network for future years is as follows:

**Junction 1:** The inclusion of the development's generated traffic from the proposed estate entrance has little impact on Port Road, causing insignificant queuing on the minor proposed estate road only. The access junction will operate well below the desired 85% RFC up to and including the 2040 future design year. No queuing is evident on the major arms, demonstrating that straight through traffic travelling past the proposed estate entrance will be unencumbered by the proposed development.

**Junction 2:** The existing Ballydowney Roundabout Junction in 2023 exhibits some traffic saturation in the AM peak period, with high RFC's on two/ three of the four junction's arms for both traffic peaks. In 2040, the roundabout junction will exhibit higher saturation levels than shown for 2023 due to background traffic growth on the network.

With these existing saturated junction traffic levels, the addition of the proposed development traffic contributes 4% increase in junction flows for the 2040 with development scenario, relative to the 2040 without development scenario. The 4% proposed developments contribution to the overall junction represents a low impact on a general junction's flows. The inherent capacity issues are due to the existing junctions geometry/ background traffic loading of the junction, irrespective of the proposed development's contribution.



**Figure 11.1 Existing Ballydowney Roundabout geometrical layout.**

The following roundabout improvements/ alterations of the existing geometry could be undertaken to improve this junction's capacity issues, including but not limited to:

- Double lane demarcation of roundabout circulatory carriage, altered from its current single lane status.
- increase in flare distance on all arms.

Junction 3: The junction between Port Road / New Road in the 2040 future design year shows that the junction is at well below design capacity for the with development scenario. The proposed estate contribution to the 2040 future year traffic flows constitute 2% of the overall junction's total traffic flows.

The Transport Assessment has therefore demonstrated that the proposed development will not have a significant effect on the road capacity of the local road network, and that the proposed development can be accommodated by the existing local road network.

## 12 ROAD SAFETY

The proposed estate entrance as stated previously is to be situated along Port Road. This junction is located within a 60kph speed zone. The requirement under DMURS (for this design speed (km/h)) is SSD standard of 59m of clear line of sight in both direction from the entrance. The existing entrance achieves this sightline requirement with no additional modification. Please refer to the photographs in Figures 17.1 & 17.2 below which illustrate the location of where the proposed estate entrance is to be located.

Please refer to 18137HD DOC 01, the Stage 1 Road Safety Audit for the proposed development entrance that has been submitted as part of this planning submission.

Please refer to Visibility Splay drawing supplied by MHL & Associates for the entrance assessment which is to be submitted as part of this submission.

Appropriate lining and signage is to be installed at this entrance location as per the Traffic Signs Manual.

## 13 ENVIRONMENTAL IMPACT

The proposed pedestrian estate infrastructure outlined coupled with the close proximity of the site to the town centre should lead to the development being more sustainable in terms of lower traffic generation, reducing single occupancy vehicle usage and CO2 production, helping to mitigate the environmental impact of the proposed development.

## 14 INTERNAL LAYOUT

The internal road layout is shown in Figure 3.1. A full drawing pack of the site has been submitted as part of this application. All estate roads to be provided with turning “hammerhead” locations along their respective roadways. All internal proposed estate roads are 6.0m in width with adjoining 2.0 m wide pedestrian footpaths throughout.

## 15 PARKING

The residential development is shown below in Figure 15.1. Parking for the development will fully be facilitated within each site. All parking spaces are required to be a minimum 2.4m x 4.9m in size.

VEHICLE PARKING SPACES IN AREA A - RESIDENTIAL (HOUSING)			
Unit Types	No. of Units	Parking x Units	Total Parking
4 bed semi-detached	30no.	2no. Parking spaces per unit	60no.
3 bed semi-detached	10no.	2no. Parking spaces per unit	20no.
3 bed townhouse	28no.	2no. Parking spaces per unit	56no.
2 bed townhouse	8no.	1no. Parking space per unit	8no.
<b>TOTAL NUMBER OF PRIVATE PARKING SPACES</b>			<b>144no.</b>
Visitors Parking			8no.
<b>TOTAL NUMBER OF PARKING SPACES</b>			<b>152no.</b>
VEHICLE PARKING SPACES IN AREA B - RESIDENTIAL (APARTMENTS/DUPLEX UNITS)			
Unit Types	No. of Units	Parking x Units	Total Parking
3 bed duplex apartment	12no.	1no. Parking space per unit	12no.
2 bed GF apartment	12no.	1no. Parking space per unit	12no.
2 bed duplex apartment	12no.	1no. Parking space per unit	12no.
1 bed GF apartment	12no.	1no. Parking space per unit	12no.
<b>TOTAL NUMBER OF PRIVATE PARKING SPACES</b>			<b>52no.</b>
EV Parking			10no.
Disabled Parking			1no.
<b>TOTAL NUMBER OF PARKING SPACES</b>			<b>63no.</b>
VEHICLE PARKING SPACES IN AREA C - RESIDENTIAL (STEP DOWN APARTMENTS)			
Unit Types	No. of Units	Parking x Units	Total Parking
2 bed apartment	80no.	0.8no. Parking spaces per unit	64no.
1 bed apartment	16no.	0.8no. Parking spaces per unit	12no.
<b>TOTAL NUMBER OF PRIVATE PARKING SPACES</b>			<b>76no.</b>
EV Parking			16no.
Disabled Parking			5no.
<b>TOTAL NUMBER OF PARKING SPACES</b>			<b>97no.</b>
VEHICLE PARKING SPACES IN AREA D - 46 CHILD CRÉCHE			
Unit Types	Users	Parking Allocation	Total Parking
46no. Crèche	staff	1no. Parking space per 3no. Staff members	4no.
	visitors	1no. Parking space per 10no. Children plus	4no.
<b>TOTAL NUMBER OF PARKING SPACES</b>			<b>8no.</b>
N.B. There are a total of 26 E.V. parking spaces indicated throughout the site which are not allocated parking spaces			
N.B. There are 5no. Motorcycle parking spaces in the apartment basement car park and 1no. In the creche car park			
<b>TOTAL NUMBER OF CAR PARKING SPACES (ENTIRE SITE)</b>			<b>320no.</b>

**Figure 15.1 – Vehicle parking Allocation**

<b>BIKE PARKING SCHEDULE</b>	
<p><b>GF Apartments &amp; Upper Duplex Apartments</b>  <i>(14no. 1 beds, 26no. 2 beds &amp; 12no. 3 beds within Blocks 1/2/3/4) - 77no. bike spaces required</i>  <i>*Ground Floor Apartments that have direct access to their allocated private amenity space can utilise this for bike storage</i></p> <p style="text-align: center;"> <span style="color: magenta;">❶</span> 20no. spaces (Covered)  <span style="color: magenta;">❷</span> 20no. spaces (Covered)  <span style="color: magenta;">❸</span> 20no. spaces (Covered)  <span style="color: magenta;">❹</span> 20no. spaces (Covered)  <span style="color: magenta;">❺</span> 20no. spaces (Covered)                 </p> <p style="text-align: center;">Total = 100no. spaces</p> <p style="text-align: center;">**Exceeds standards set out in the Design Standards for New Apartments document (2023)</p>	
<p style="text-align: center;"><b>Apartments (Blocks J, K &amp; L)</b>  <i>(80no. 2 bed apts. &amp; 16no. 1 bed apts.)</i>  <i>-224no. bike spaces required</i></p> <p style="text-align: center;"> <span style="color: magenta;">❻</span> 230no. spaces (Covered)                 </p> <p style="text-align: center;">Total = 230no. spaces</p> <p style="text-align: center;">**Exceeds standards set out in the Design Standards for New Apartments document (2023)</p>	
<p><b>Creche</b></p> <p> <span style="color: magenta;">❼</span> 20no. spaces (Covered)                 </p>	
<p><b>TOTAL BIKE PARKING PROVIDED = 350no.</b></p>	

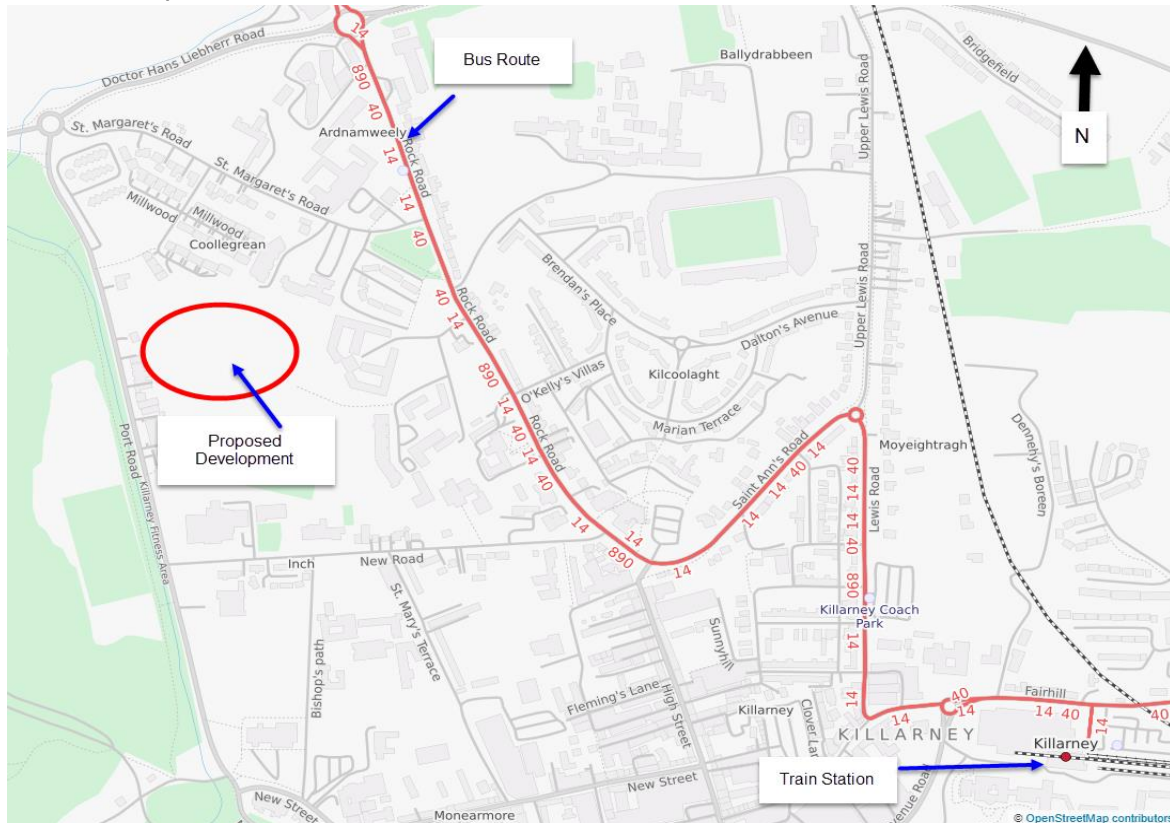
**Figure 15.1 – Bicycle parking Allocation**

As outlined in Figure 15.1 the proposed cycle parking quantum exceeds the Design Standards for New Apartments document.



## 16 PUBLIC TRANSPORT

The proposed development is within a short walk to the Local Link bus corridor routes as shown below in Figure 16.1. Killarney train station is located within two kilometres of this proposed development site at Port Road, allowing for sustainable transport modes to be availed of by future residents.



**Figure 16.1 Site location in relation town bus and rail infrastructure**

## 17 PEDESTRIAN / CYCLIST

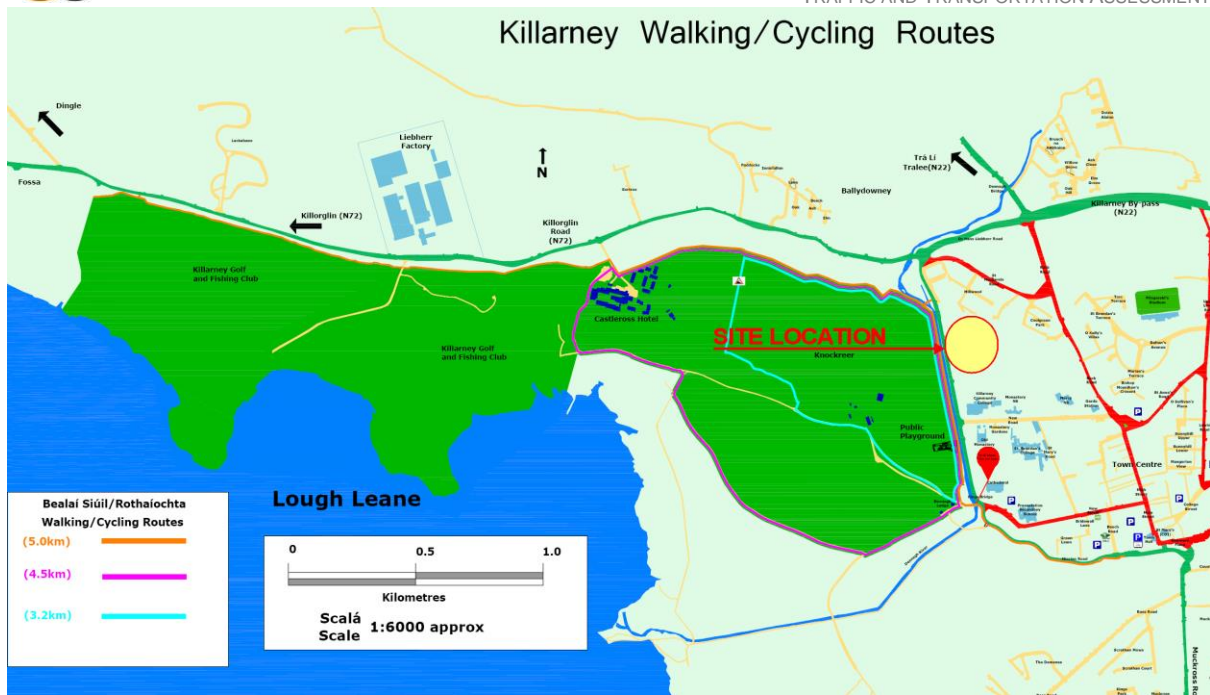
The site is very well located in terms of connectivity to pedestrian and cycle facilities. Footpaths are provided on both sides of the road where the development entrance is to be positioned. The footpaths link the proposed estate to Killarney town centre to the east. All footpaths to be dished at all entrances and crossings with tapered/ dropped kerbs and tactile paving used on approaches in accordance with the design guidelines for use with tactile paving. This is to accommodate wheelchair access and guide the visually impaired people safely through the development.

A number of proposed and potential pedestrian links are also identified in the site layout. These links will provide excellent connectivity between the site and the town centre, local schools local amenities and services.

An extensive cycle network is available to cyclists in the vicinity of the site. This scheme is providing a total of 350 specific bike parking spaces in 7 different locations within the development boundary. This cycle networks provides excellent connectivity to the town centre and also throughout the town. The Kerry County Council "Killarney Walking/Cycling Routes! Map sets out walking and cycling routes showing the available facilities in the vicinity of the site. As seen in figure 17.1 a shared walking and cycling facility is provided in the grounds of the National Park opposite the site entrance. See figure 17.1 showing a photo of this facility close to the site.

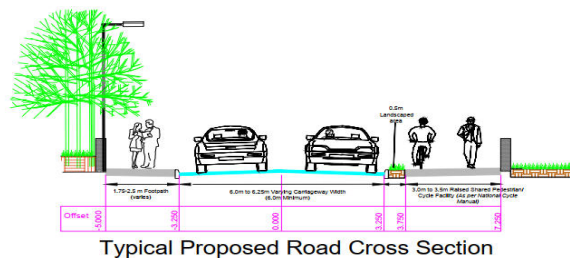
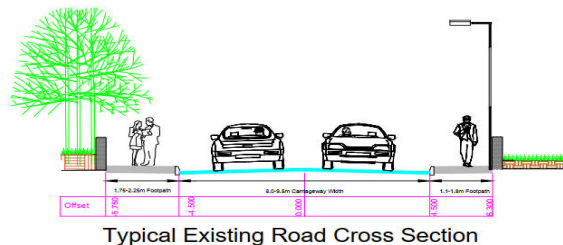


**Figure 17.1 Existing Off road shared facility in Killarney National Park opposite site entrance**



**Figure 17.2 Killarney Walking/Cycling Route (Source Kerry County Council)**

As part of this development, it is proposed to provide a 3m wide shared surface along Port Road between the development entrance and the junction of Port Road and New Road. There is also an existing cycling lane providing connectivity between the development and the town centre. This cycle lane is located to the opposite side of Port Road within the National Park. Drawing detailing this proposal are included in within the Drawing Pack (PR-SF-P01 & PR-SF-P02)



**Figure 17.3 Proposed Shared Surface facility on N71 Port Road providing connectivity to off road shared facility in National Park**

## 18 ACCESSIBILITY AND INTEGRATION

The site is very accessible to the public transport system with services to Killarney town centre with services readily available directly in front of the site entrance. The development of the site will further enhance the integration of these lands into the area.

## 19 ACCESS FOR PEOPLE WITH DISABILITIES

All crossing points and footpaths to include public lighting, signage and road markings and will be provided in accordance with the required standards. All footpaths will have adequate width to accommodate the mobility impaired and gradients and cross-falls will be designed to the National Disability Authority (NDA) guidelines as well all crossing points, with drop kerbs and tactile paving for the visually impaired.

## 20 MITIGATION

The availability of bus and rail within the town is ideal in allowing residents of the proposed development to utilise non-car travel modes, producing tangible modal shifts in the resident's road network usage to more sustainable modes of travel. The availability of cycling infrastructure within the town's environs allows residents to safely avail of this sustainable mode of transport.

The Killarney Traffic Study-2015 makes a number of recommendations aimed at improving facilities and connectivity for cycle and pedestrian travel modes.

## 21 REFERENCES

- TII (2014) Traffic and Transport Assessment Guidelines, Dublin
- Institution of Highways & Transportation (1994) Guidelines for Traffic Impact Assessment IHT, London
- Transport Infrastructure Ireland (2016) Project Appraisal Guidelines for National Roads Unit 16.0- Estimating AADT on National Roads
- Transport Infrastructure Ireland (2016) Project Appraisal Guidelines for National Roads Unit 5.3- Travel Demand Projections
- Communities and Local Government Department for Transport 2007 Guidance on Transport Assessment
- Guidelines for Traffic Impact Assessments" as published by the Institution of Highways & Transportation U.K. in 1994
- National Disability Authority (NDA) guidelines – Towards Best Practice in Provision of Transport Services
- Kerry County Council Development Plan (2022) published by Kerry County Council
- TII approved junction simulation modelling program (PICADY 9 of the TRL Junction 9 traffic modelling suite)
- Trip Rate Information Computer System (TRICS)
- Traffic Surveys undertaken by Tracsis Plc (07:00-09:00 & 17:00-18:00)
- MTC Traffic Surveys undertaken by MHL (08:00-09:00 & 17:00-18:00)

## **APPENDIX A – TRAFFIC MODEL OUTPUTS**

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<h1>Junctions 9</h1>
<h2>PICADY 9 - Priority Intersection Module</h2>
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
<b>The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution</b>

**Filename:** J1- Port Road Estate Junctiona.j9 23042024.j9

**Path:** N:\HOUS\_DEV\18137\_Port Road Killarney\Planning\April 2024\Documents\DOC02 TTA (Traffic and Transportation Report)\Modelling\Junction 1\_Estate Jn

**Report generation date:** 24/04/2024 13:06:12

- 
- »2023 Existing, AM
  - »2023 Existing, PM
  - »2025 Without devt, AM
  - »2025 With devt, AM
  - »2025 Without devt, PM
  - »2025 With devt, PM
  - »2030 Without devt, AM
  - »2030 With devt, AM
  - »2030 Without devt, PM
  - »2030 With devt, PM
  - »2040 Without devt, AM
  - »2040 With devt, AM
  - »2040 Without devt, PM
  - »2040 With devt, PM

### Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023 Existing</b>										
Stream B-AC	D1	0.0	0.00	0.00	A	D2	0.0	0.00	0.00	A
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2025 Without devt</b>										
Stream B-AC	D3	0.0	0.00	0.00	A	D5	0.0	0.00	0.00	A
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2025 With devt</b>										
Stream B-AC	D4	0.3	13.13	0.21	B	D6	0.2	9.48	0.15	A
Stream C-AB		0.2	6.45	0.09	A		0.2	5.14	0.11	A
<b>2030 Without devt</b>										
Stream B-AC	D7	0.0	0.00	0.00	A	D9	0.0	0.00	0.00	A
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2030 With devt</b>										
Stream B-AC	D8	0.3	12.89	0.22	B	D10	0.2	9.75	0.15	A
Stream C-AB		0.2	6.36	0.10	A		0.2	5.10	0.11	A
<b>2040 Without devt</b>										
Stream B-AC	D11	0.0	0.00	0.00	A	D13	0.0	0.00	0.00	A
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2040 With devt</b>										
Stream B-AC	D12	1.6	81.65	0.64	F	D14	0.2	9.85	0.15	A
Stream C-AB		0.2	5.58	0.09	A		0.3	5.08	0.11	A

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

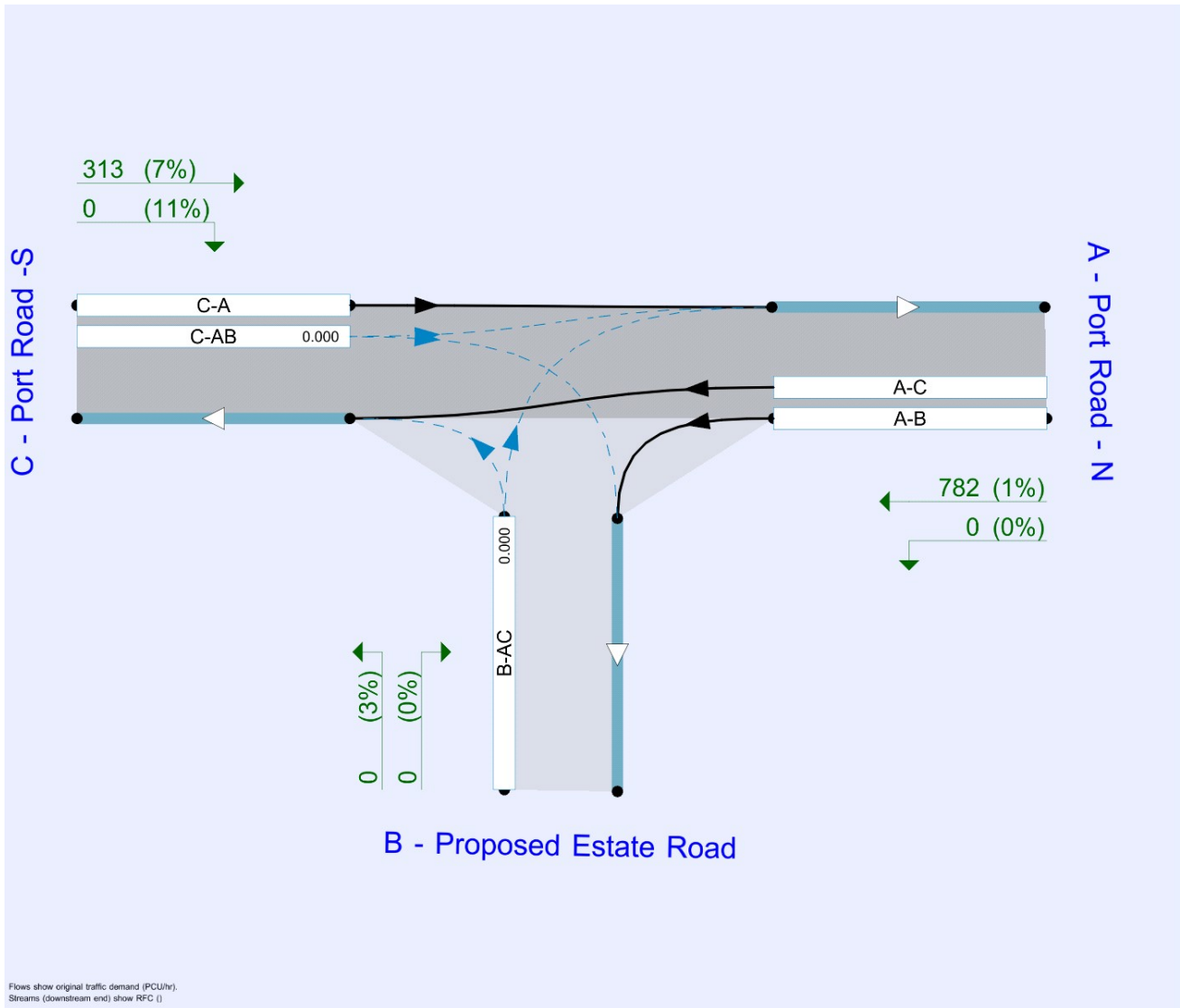
### File summary

#### File Description

Title	Port Road Development
Location	
Site number	
Date	15/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	18137HD
Enumerator	COB
Description	

### 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	s	-Min	perMin



Flows show original traffic demand (PCU/hr).  
Streams (downstream end) show RFC ( )

The junction diagram reflects the last run of Junctions.

### Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75		✓		0.85	36.00	20.00

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Existing	AM	ONE HOUR	08:00	09:30	15	✓
D2	2023 Existing	PM	ONE HOUR	17:00	18:30	15	✓
D3	2025 Without devt	AM	ONE HOUR	08:00	09:30	15	✓
D4	2025 With devt	AM	ONE HOUR	08:00	09:30	15	✓
D5	2025 Without devt	PM	ONE HOUR	17:00	18:30	15	✓
D6	2025 With devt	PM	ONE HOUR	17:00	18:30	15	✓
D7	2030 Without devt	AM	ONE HOUR	08:00	09:30	15	✓
D8	2030 With devt	AM	ONE HOUR	08:00	09:30	15	✓
D9	2030 Without devt	PM	ONE HOUR	17:00	18:30	15	✓
D10	2030 With devt	PM	ONE HOUR	17:00	18:30	15	✓
D11	2040 Without devt	AM	ONE HOUR	08:00	09:30	15	✓
D12	2040 With devt	AM	ONE HOUR	08:00	09:30	15	✓
D13	2040 Without devt	PM	ONE HOUR	17:00	18:30	15	✓
D14	2040 With devt	PM	ONE HOUR	17:00	18:30	15	✓

### Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2023 Existing, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Name	Description	Arm type
A	Port Road - N		Major
B	Proposed Estate Road		Minor
C	Port Road -S		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Port Road -S	6.00			110.0	✓	0.00

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

### Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Proposed Estate Road	One lane	3.00	200	120

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	606	0.110	0.279	0.176	0.399
B-C	699	0.107	0.271	-	-
C-B	638	0.247	0.247	-	-

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

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

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

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Existing	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	782	100.000
B - Proposed Estate Road		ONE HOUR	✓	0	100.000
C - Port Road -S		ONE HOUR	✓	313	100.000

## Origin-Destination Data

### Demand (PCU/hr)

From	To		
	A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
A - Port Road - N	0	0	782
B - Proposed Estate Road	0	0	0
C - Port Road -S	313	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

From	To		
	A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
A - Port Road - N	0	0	1
B - Proposed Estate Road	0	0	3
C - Port Road -S	7	11	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-A					287	431					
A-B					0	0					
A-C					718	1076					

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	460	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	492	0.000	0	0.0	0.0	0.000	A
C-A	236	59			236				
A-B	0	0			0				
A-C	589	147			589				

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	422	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	464	0.000	0	0.0	0.0	0.000	A
C-A	281	70			281				
A-B	0	0			0				
A-C	703	176			703				

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	369	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	425	0.000	0	0.0	0.0	0.000	A
C-A	345	86			345				
A-B	0	0			0				
A-C	861	215			861				

**08:45 - 09:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	369	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	425	0.000	0	0.0	0.0	0.000	A
C-A	345	86			345				
A-B	0	0			0				
A-C	861	215			861				

**09:00 - 09:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	422	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	464	0.000	0	0.0	0.0	0.000	A
C-A	281	70			281				
A-B	0	0			0				
A-C	703	176			703				

**09:15 - 09:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	460	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	492	0.000	0	0.0	0.0	0.000	A
C-A	236	59			236				
A-B	0	0			0				
A-C	589	147			589				

**Queueing Delay Results for each time segment**

**08:00 - 08:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**08:15 - 08:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**08:30 - 08:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**08:45 - 09:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**09:00 - 09:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**09:15 - 09:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A



# 2023 Existing, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023 Existing	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	424	100.000
B - Proposed Estate Road		ONE HOUR	✓	0	100.000
C - Port Road -S		ONE HOUR	✓	392	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	424
	B - Proposed Estate Road	0	0	0
	C - Port Road -S	392	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	0
	B - Proposed Estate Road	0	0	4
	C - Port Road -S	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-A					360	540					
A-B					0	0					
A-C					389	584					

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	529	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	559	0.000	0	0.0	0.0	0.000	A
C-A	295	74			295				
A-B	0	0			0				
A-C	319	80			319				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	505	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	543	0.000	0	0.0	0.0	0.000	A
C-A	352	88			352				
A-B	0	0			0				
A-C	381	95			381				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	471	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	522	0.000	0	0.0	0.0	0.000	A
C-A	432	108			432				
A-B	0	0			0				
A-C	467	117			467				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	471	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	522	0.000	0	0.0	0.0	0.000	A
C-A	432	108			432				
A-B	0	0			0				
A-C	467	117			467				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	505	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	543	0.000	0	0.0	0.0	0.000	A
C-A	352	88			352				
A-B	0	0			0				
A-C	381	95			381				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	529	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	559	0.000	0	0.0	0.0	0.000	A
C-A	295	74			295				
A-B	0	0			0				
A-C	319	80			319				

**Queueing Delay Results for each time segment**

**17:00 - 17:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:15 - 17:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:30 - 17:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:45 - 18:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:00 - 18:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:15 - 18:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

# 2025 Without devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 Without devt	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	799	100.000
B - Proposed Estate Road		ONE HOUR	✓	0	100.000
C - Port Road -S		ONE HOUR	✓	320	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	799
	B - Proposed Estate Road	0	0	0
	C - Port Road -S	320	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	1
	B - Proposed Estate Road	0	0	3
	C - Port Road -S	7	11	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-A					294	440					
A-B					0	0					
A-C					733	1100					

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	456	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	489	0.000	0	0.0	0.0	0.000	A
C-A	241	60			241				
A-B	0	0			0				
A-C	602	150			602				

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	417	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	460	0.000	0	0.0	0.0	0.000	A
C-A	288	72			288				
A-B	0	0			0				
A-C	718	180			718				

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	363	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	420	0.000	0	0.0	0.0	0.000	A
C-A	352	88			352				
A-B	0	0			0				
A-C	880	220			880				

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	363	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	420	0.000	0	0.0	0.0	0.000	A
C-A	352	88			352				
A-B	0	0			0				
A-C	880	220			880				

**09:00 - 09:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	417	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	460	0.000	0	0.0	0.0	0.000	A
C-A	288	72			288				
A-B	0	0			0				
A-C	718	180			718				

**09:15 - 09:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	456	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	489	0.000	0	0.0	0.0	0.000	A
C-A	241	60			241				
A-B	0	0			0				
A-C	602	150			602				

**Queueing Delay Results for each time segment**

**08:00 - 08:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**08:15 - 08:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**08:30 - 08:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**08:45 - 09:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**09:00 - 09:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**09:15 - 09:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

# 2025 With devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		1.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 With devt	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	861	100.000
B - Proposed Estate Road		ONE HOUR	✓	73	100.000
C - Port Road -S		ONE HOUR	✓	347	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	62	799
	B - Proposed Estate Road	22	0	51
	C - Port Road -S	320	27	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	10	10	10
	B - Proposed Estate Road	10	10	10
	C - Port Road -S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.21	13.13	0.3	B	67	100	18.64	11.13	0.21	18.64	11.13
C-AB	0.09	6.45	0.2	A	46	69	12.18	10.61	0.14	12.18	10.61
C-A					273	409					
A-B					57	85					
A-C					733	1100					

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	476	0.116	54	0.0	0.1	9.385	A
C-AB	32	8	655	0.049	32	0.0	0.1	6.359	A
C-A	229	57			229				
A-B	47	12			47				
A-C	602	150			602				

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	16	437	0.150	65	0.1	0.2	10.653	B
C-AB	43	11	663	0.065	43	0.1	0.1	6.391	A
C-A	269	67			269				
A-B	56	14			56				
A-C	718	180			718				

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	80	20	382	0.210	80	0.2	0.3	13.098	B
C-AB	62	16	677	0.092	62	0.1	0.2	6.444	A
C-A	320	80			320				
A-B	68	17			68				
A-C	880	220			880				

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	80	20	382	0.210	80	0.3	0.3	13.134	B
C-AB	62	16	677	0.092	62	0.2	0.2	6.448	A
C-A	320	80			320				
A-B	68	17			68				
A-C	880	220			880				



**09:00 - 09:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	16	437	0.150	66	0.3	0.2	10.688	B
C-AB	43	11	663	0.065	44	0.2	0.1	6.400	A
C-A	269	67			269				
A-B	56	14			56				
A-C	718	180			718				

**09:15 - 09:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	476	0.116	55	0.2	0.1	9.420	A
C-AB	32	8	655	0.049	32	0.1	0.1	6.367	A
C-A	229	57			229				
A-B	47	12			47				
A-C	602	150			602				

**Queueing Delay Results for each time segment**

**08:00 - 08:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.04	0.14	9.385	A
C-AB	1.20	0.08	6.359	A

**08:15 - 08:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.79	0.19	10.653	B
C-AB	1.80	0.12	6.391	A

**08:30 - 08:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	4.16	0.28	13.098	B
C-AB	3.01	0.20	6.444	A

**08:45 - 09:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	4.34	0.29	13.134	B
C-AB	3.06	0.20	6.448	A

**09:00 - 09:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	3.06	0.20	10.688	B
C-AB	1.86	0.12	6.400	A

**09:15 - 09:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.24	0.15	9.420	A
C-AB	1.25	0.08	6.367	A

# 2025 Without devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Without devt	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	433	100.000
B - Proposed Estate Road		ONE HOUR	✓	0	100.000
C - Port Road -S		ONE HOUR	✓	401	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	433
	B - Proposed Estate Road	0	0	0
	C - Port Road -S	401	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	0
	B - Proposed Estate Road	0	0	4
	C - Port Road -S	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-A					368	552					
A-B					0	0					
A-C					397	596					

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	526	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	557	0.000	0	0.0	0.0	0.000	A
C-A	302	75			302				
A-B	0	0			0				
A-C	326	81			326				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	502	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	541	0.000	0	0.0	0.0	0.000	A
C-A	360	90			360				
A-B	0	0			0				
A-C	389	97			389				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	467	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	520	0.000	0	0.0	0.0	0.000	A
C-A	442	110			442				
A-B	0	0			0				
A-C	477	119			477				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	467	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	520	0.000	0	0.0	0.0	0.000	A
C-A	442	110			442				
A-B	0	0			0				
A-C	477	119			477				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	502	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	541	0.000	0	0.0	0.0	0.000	A
C-A	360	90			360				
A-B	0	0			0				
A-C	389	97			389				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	526	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	557	0.000	0	0.0	0.0	0.000	A
C-A	302	75			302				
A-B	0	0			0				
A-C	326	81			326				

**Queueing Delay Results for each time segment**

**17:00 - 17:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:15 - 17:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:30 - 17:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:45 - 18:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:00 - 18:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:15 - 18:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

# 2025 With devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.96	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 With devt	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	473	100.000
B - Proposed Estate Road		ONE HOUR	✓	60	100.000
C - Port Road -S		ONE HOUR	✓	438	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	40	433
	B - Proposed Estate Road	29	0	31
	C - Port Road -S	401	37	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	0
	B - Proposed Estate Road	0	0	4
	C - Port Road -S	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.15	9.48	0.2	A	55	83	11.78	8.56	0.13	11.78	8.56
C-AB	0.11	5.14	0.2	A	65	98	14.61	8.94	0.16	14.61	8.94
C-A					337	505					
A-B					37	55					
A-C					397	596					

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	518	0.087	45	0.0	0.1	7.749	A
C-AB	46	12	759	0.061	46	0.0	0.1	5.123	A
C-A	284	71			284				
A-B	30	8			30				
A-C	326	81			326				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	492	0.110	54	0.1	0.1	8.390	A
C-AB	62	15	787	0.078	61	0.1	0.1	5.050	A
C-A	332	83			332				
A-B	36	9			36				
A-C	389	97			389				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	454	0.146	66	0.1	0.2	9.466	A
C-AB	88	22	826	0.106	88	0.1	0.2	4.977	A
C-A	394	99			394				
A-B	44	11			44				
A-C	477	119			477				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	454	0.146	66	0.2	0.2	9.477	A
C-AB	88	22	826	0.107	88	0.2	0.2	4.986	A
C-A	394	99			394				
A-B	44	11			44				
A-C	477	119			477				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	491	0.110	54	0.2	0.1	8.404	A
C-AB	62	15	787	0.079	62	0.2	0.2	5.074	A
C-A	332	83			332				
A-B	36	9			36				
A-C	389	97			389				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	518	0.087	45	0.1	0.1	7.768	A
C-AB	46	12	760	0.061	47	0.2	0.1	5.140	A
C-A	283	71			283				
A-B	30	8			30				
A-C	326	81			326				

**Queueing Delay Results for each time segment**

**17:00 - 17:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.40	0.09	7.749	A
C-AB	1.49	0.10	5.123	A

**17:15 - 17:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.82	0.12	8.390	A
C-AB	2.19	0.15	5.050	A

**17:30 - 17:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.51	0.17	9.466	A
C-AB	3.52	0.23	4.977	A

**17:45 - 18:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.59	0.17	9.477	A
C-AB	3.58	0.24	4.986	A

**18:00 - 18:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.96	0.13	8.404	A
C-AB	2.26	0.15	5.074	A

**18:15 - 18:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.51	0.10	7.768	A
C-AB	1.56	0.10	5.140	A

## 2030 Without devt, AM

*Unable to run analysis set for main data file. Use the Errors and Warnings screen to check errors or warning for this analysis set.*



# 2030 With devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.95	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2030 With devt	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	906	100.000
B - Proposed Estate Road		ONE HOUR	✓	73	100.000
C - Port Road -S		ONE HOUR	✓	365	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	62	844
	B - Proposed Estate Road	22	0	51
	C - Port Road -S	338	27	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	1
	B - Proposed Estate Road	0	0	3
	C - Port Road -S	7	11	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.22	12.89	0.3	B	67	100	18.06	10.78	0.20	18.06	10.78
C-AB	0.10	6.36	0.2	A	48	72	12.78	10.66	0.14	12.78	10.66
C-A					287	430					
A-B					57	85					
A-C					774	1162					

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	465	0.118	54	0.0	0.1	8.935	A
C-AB	33	8	657	0.050	33	0.0	0.1	6.308	A
C-A	242	60			242				
A-B	47	12			47				
A-C	635	159			635				

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	16	424	0.155	65	0.1	0.2	10.243	B
C-AB	45	11	667	0.067	45	0.1	0.1	6.326	A
C-A	283	71			283				
A-B	56	14			56				
A-C	759	190			759				

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	80	20	365	0.220	80	0.2	0.3	12.856	B
C-AB	66	16	683	0.096	65	0.1	0.2	6.356	A
C-A	336	84			336				
A-B	68	17			68				
A-C	929	232			929				

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	80	20	365	0.220	80	0.3	0.3	12.894	B
C-AB	66	16	683	0.096	66	0.2	0.2	6.356	A
C-A	336	84			336				
A-B	68	17			68				
A-C	929	232			929				

**09:00 - 09:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	16	424	0.155	66	0.3	0.2	10.277	B
C-AB	45	11	667	0.067	45	0.2	0.1	6.314	A
C-A	283	71			283				
A-B	56	14			56				
A-C	759	190			759				

**09:15 - 09:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	55	14	465	0.118	55	0.2	0.1	8.971	A
C-AB	33	8	657	0.051	34	0.1	0.1	6.308	A
C-A	241	60			241				
A-B	47	12			47				
A-C	635	159			635				

**Queueing Delay Results for each time segment**

**08:00 - 08:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.95	0.13	8.935	A
C-AB	1.23	0.08	6.308	A

**08:15 - 08:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.69	0.18	10.243	B
C-AB	1.87	0.12	6.326	A

**08:30 - 08:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	4.08	0.27	12.856	B
C-AB	3.19	0.21	6.356	A

**08:45 - 09:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	4.26	0.28	12.894	B
C-AB	3.25	0.22	6.356	A

**09:00 - 09:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.94	0.20	10.277	B
C-AB	1.94	0.13	6.314	A

**09:15 - 09:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.13	0.14	8.971	A
C-AB	1.29	0.09	6.308	A

# 2030 Without devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2030 Without devt	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	457	100.000
B - Proposed Estate Road		ONE HOUR	✓	0	100.000
C - Port Road -S		ONE HOUR	✓	423	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	457
	B - Proposed Estate Road	0	0	0
	C - Port Road -S	423	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	0
	B - Proposed Estate Road	0	0	4
	C - Port Road -S	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-A					388	582					
A-B					0	0					
A-C					419	629					

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	519	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	553	0.000	0	0.0	0.0	0.000	A
C-A	318	80			318				
A-B	0	0			0				
A-C	344	86			344				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	493	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	536	0.000	0	0.0	0.0	0.000	A
C-A	380	95			380				
A-B	0	0			0				
A-C	411	103			411				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	457	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	513	0.000	0	0.0	0.0	0.000	A
C-A	466	116			466				
A-B	0	0			0				
A-C	503	126			503				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	457	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	513	0.000	0	0.0	0.0	0.000	A
C-A	466	116			466				
A-B	0	0			0				
A-C	503	126			503				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	493	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	536	0.000	0	0.0	0.0	0.000	A
C-A	380	95			380				
A-B	0	0			0				
A-C	411	103			411				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	519	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	553	0.000	0	0.0	0.0	0.000	A
C-A	318	80			318				
A-B	0	0			0				
A-C	344	86			344				

**Queueing Delay Results for each time segment**

**17:00 - 17:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:15 - 17:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:30 - 17:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:45 - 18:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:00 - 18:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:15 - 18:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

# 2030 With devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.95	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2030 With devt	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	497	100.000
B - Proposed Estate Road		ONE HOUR	✓	60	100.000
C - Port Road -S		ONE HOUR	✓	460	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	40	457
	B - Proposed Estate Road	29	0	31
	C - Port Road -S	423	37	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	0
	B - Proposed Estate Road	0	0	4
	C - Port Road -S	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.15	9.75	0.2	A	55	83	12.04	8.75	0.13	12.04	8.75
C-AB	0.11	5.10	0.2	A	68	102	15.23	8.96	0.17	15.23	8.97
C-A					354	531					
A-B					37	55					
A-C					419	629					

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	511	0.088	45	0.0	0.1	7.865	A
C-AB	48	12	767	0.062	47	0.0	0.1	5.081	A
C-A	299	75			299				
A-B	30	8			30				
A-C	344	86			344				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	483	0.112	54	0.1	0.1	8.556	A
C-AB	64	16	796	0.080	64	0.1	0.2	5.004	A
C-A	350	87			350				
A-B	36	9			36				
A-C	411	103			411				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	443	0.149	66	0.1	0.2	9.734	A
C-AB	92	23	838	0.110	92	0.2	0.2	4.925	A
C-A	414	104			414				
A-B	44	11			44				
A-C	503	126			503				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	443	0.149	66	0.2	0.2	9.746	A
C-AB	92	23	839	0.110	92	0.2	0.2	4.936	A
C-A	414	104			414				
A-B	44	11			44				
A-C	503	126			503				



**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	483	0.112	54	0.2	0.1	8.571	A
C-AB	64	16	797	0.080	64	0.2	0.2	5.025	A
C-A	349	87			349				
A-B	36	9			36				
A-C	411	103			411				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	511	0.088	45	0.1	0.1	7.883	A
C-AB	48	12	767	0.062	48	0.2	0.1	5.098	A
C-A	298	75			298				
A-B	30	8			30				
A-C	344	86			344				

**Queueing Delay Results for each time segment**

**17:00 - 17:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.42	0.09	7.865	A
C-AB	1.53	0.10	5.081	A

**17:15 - 17:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.86	0.12	8.556	A
C-AB	2.27	0.15	5.004	A

**17:30 - 17:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.57	0.17	9.734	A
C-AB	3.70	0.25	4.925	A

**17:45 - 18:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.66	0.18	9.746	A
C-AB	3.77	0.25	4.936	A

**18:00 - 18:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.00	0.13	8.571	A
C-AB	2.35	0.16	5.025	A

**18:15 - 18:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.53	0.10	7.883	A
C-AB	1.60	0.11	5.098	A

# 2040 Without devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2040 Without devt	AM	ONE HOUR	08:00	09:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	860	100.000
B - Proposed Estate Road		ONE HOUR	✓	0	100.000
C - Port Road -S		ONE HOUR	✓	344	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	860
	B - Proposed Estate Road	0	0	0
	C - Port Road -S	344	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	1
	B - Proposed Estate Road	0	0	3
	C - Port Road -S	7	11	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-A					316	473					
A-B					0	0					
A-C					789	1184					

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	441	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	478	0.000	0	0.0	0.0	0.000	A
C-A	259	65			259				
A-B	0	0			0				
A-C	647	162			647				

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	399	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	447	0.000	0	0.0	0.0	0.000	A
C-A	309	77			309				
A-B	0	0			0				
A-C	773	193			773				

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	340	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	404	0.000	0	0.0	0.0	0.000	A
C-A	379	95			379				
A-B	0	0			0				
A-C	947	237			947				

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	340	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	404	0.000	0	0.0	0.0	0.000	A
C-A	379	95			379				
A-B	0	0			0				
A-C	947	237			947				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	399	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	447	0.000	0	0.0	0.0	0.000	A
C-A	309	77			309				
A-B	0	0			0				
A-C	773	193			773				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	441	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	478	0.000	0	0.0	0.0	0.000	A
C-A	259	65			259				
A-B	0	0			0				
A-C	647	162			647				

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

## 2040 With devt, AM

*Unable to run analysis set for main data file. Use the Errors and Warnings screen to check errors or warning for this analysis set.*

# 2040 Without devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.00	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2040 Without devt	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	466	100.000
B - Proposed Estate Road		ONE HOUR	✓	0	100.000
C - Port Road -S		ONE HOUR	✓	431	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	466
	B - Proposed Estate Road	0	0	0
	C - Port Road -S	431	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	0
	B - Proposed Estate Road	0	0	4
	C - Port Road -S	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-AB	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
C-A					395	593					
A-B					0	0					
A-C					428	641					

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	517	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	551	0.000	0	0.0	0.0	0.000	A
C-A	324	81			324				
A-B	0	0			0				
A-C	351	88			351				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	490	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	534	0.000	0	0.0	0.0	0.000	A
C-A	387	97			387				
A-B	0	0			0				
A-C	419	105			419				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	453	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	511	0.000	0	0.0	0.0	0.000	A
C-A	475	119			475				
A-B	0	0			0				
A-C	513	128			513				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	453	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	511	0.000	0	0.0	0.0	0.000	A
C-A	475	119			475				
A-B	0	0			0				
A-C	513	128			513				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	490	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	534	0.000	0	0.0	0.0	0.000	A
C-A	387	97			387				
A-B	0	0			0				
A-C	419	105			419				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	517	0.000	0	0.0	0.0	0.000	A
C-AB	0	0	551	0.000	0	0.0	0.0	0.000	A
C-A	324	81			324				
A-B	0	0			0				
A-C	351	88			351				

**Queueing Delay Results for each time segment**

**17:00 - 17:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:15 - 17:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:30 - 17:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**17:45 - 18:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:00 - 18:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A

**18:15 - 18:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	0.00	0.00	0.000	A
C-AB	0.00	0.00	0.000	A



# 2040 With devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J1 Proposed Estate Jn	T-Junction	Two-way		0.94	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2040 With devt	PM	ONE HOUR	17:00	18:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road - N		ONE HOUR	✓	506	100.000
B - Proposed Estate Road		ONE HOUR	✓	60	100.000
C - Port Road -S		ONE HOUR	✓	468	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	40	466
	B - Proposed Estate Road	29	0	31
	C - Port Road -S	431	37	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road - N	B - Proposed Estate Road	C - Port Road -S
From	A - Port Road - N	0	0	0
	B - Proposed Estate Road	0	0	4
	C - Port Road -S	4	0	0

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-AC	0.15	9.85	0.2	A	55	83	12.14	8.82	0.13	12.14	8.82
C-AB	0.11	5.08	0.3	A	69	103	15.47	8.98	0.17	15.47	8.98
C-A					360	541					
A-B					37	55					
A-C					428	641					

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	509	0.089	45	0.0	0.1	7.909	A
C-AB	48	12	770	0.063	48	0.0	0.1	5.066	A
C-A	304	76			304				
A-B	30	8			30				
A-C	351	88			351				

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	480	0.112	54	0.1	0.1	8.620	A
C-AB	65	16	800	0.081	65	0.1	0.2	4.985	A
C-A	356	89			356				
A-B	36	9			36				
A-C	419	105			419				

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	439	0.150	66	0.1	0.2	9.838	A
C-AB	94	23	843	0.111	93	0.2	0.3	4.907	A
C-A	422	105			422				
A-B	44	11			44				
A-C	513	128			513				

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	66	17	439	0.151	66	0.2	0.2	9.850	A
C-AB	94	23	843	0.111	94	0.3	0.3	4.918	A
C-A	421	105			421				
A-B	44	11			44				
A-C	513	128			513				

**18:00 - 18:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	54	13	480	0.112	54	0.2	0.1	8.635	A
C-AB	65	16	800	0.081	65	0.3	0.2	5.008	A
C-A	356	89			356				
A-B	36	9			36				
A-C	419	105			419				

**18:15 - 18:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	45	11	509	0.089	45	0.1	0.1	7.929	A
C-AB	48	12	770	0.063	49	0.2	0.1	5.083	A
C-A	304	76			304				
A-B	30	8			30				
A-C	351	88			351				

**Queueing Delay Results for each time segment**

**17:00 - 17:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.42	0.09	7.909	A
C-AB	1.55	0.10	5.066	A

**17:15 - 17:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.87	0.12	8.620	A
C-AB	2.30	0.15	4.985	A

**17:30 - 17:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.60	0.17	9.838	A
C-AB	3.77	0.25	4.907	A

**17:45 - 18:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.69	0.18	9.850	A
C-AB	3.84	0.26	4.918	A

**18:00 - 18:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	2.01	0.13	8.635	A
C-AB	2.39	0.16	5.008	A

**18:15 - 18:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-AC	1.54	0.10	7.929	A
C-AB	1.62	0.11	5.083	A

<h1>Junctions 9</h1>
<h2>ARCADY 9 - Roundabout Module</h2>
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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**Filename:** J2- Ballydowney Roundabout.j9 23042024.j9

**Path:** N:\HOUS\_DEV\18137\_Port Road Killarney\Planning\April 2024\Documents\DOC02 TTA (Traffic and Transportation Report)\Modelling\Junction 2\_Ballydowney Rbout

**Report generation date:** 24/04/2024 13:10:20

- 
- »2023, AM
  - »2023, PM
  - »2025 without devt., AM
  - »2025 with devt., AM
  - »2030 without devt., AM
  - »2030 with devt., AM
  - »2040 without devt., AM
  - »2040 with devt., AM
  - »2025 without devt., PM
  - »2025 with devt., PM
  - »2030 without devt., PM
  - »2030 with devt., PM
  - »2040 without devt., PM
  - »2040 with devt., PM

### Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
<b>2023</b>										
Arm 1	D1	2.0	11.19	0.67	B	D2	2.6	13.02	0.72	B
Arm 2		0.3	6.98	0.24	A		0.2	6.36	0.18	A
Arm 3		0.5	5.52	0.32	A		1.0	8.75	0.51	A
Arm 4		3.1	13.59	0.76	B		1.4	7.91	0.59	A
<b>2025 without devt.</b>										
Arm 1	D3	3.3	16.89	0.78	C	D9	2.8	14.06	0.74	B
Arm 2		0.4	8.26	0.29	A		0.2	6.51	0.19	A
Arm 3		0.6	6.08	0.37	A		1.1	9.11	0.53	A
Arm 4		5.7	23.15	0.86	C		1.5	8.22	0.60	A
<b>2025 with devt.</b>										
Arm 1	D4	4.4	21.80	0.83	C	D10	3.3	16.10	0.77	C
Arm 2		0.5	9.03	0.32	A		0.2	6.80	0.20	A
Arm 3		0.7	6.36	0.40	A		1.3	9.91	0.57	A
Arm 4		7.4	29.21	0.89	D		1.7	8.75	0.63	A
<b>2030 without devt.</b>										
Arm 1	D5	4.6	22.45	0.83	C	D11	3.7	17.71	0.80	C
Arm 2		0.5	9.10	0.32	A		0.3	6.95	0.21	A
Arm 3		0.7	6.43	0.40	A		1.3	10.18	0.57	B
Arm 4		8.8	34.07	0.91	D		1.7	9.03	0.64	A
<b>2030 with devt.</b>										
Arm 1	D6	6.4	30.81	0.88	D	D12	4.5	21.06	0.83	C
Arm 2		0.5	9.99	0.35	A		0.3	7.26	0.22	A
Arm 3		0.7	6.71	0.42	A		1.5	11.18	0.61	B
Arm 4		12.2	45.87	0.95	E		1.9	9.70	0.66	A
<b>2040 without devt.</b>										
Arm 1	D7	5.2	25.30	0.85	D	D13	4.2	19.52	0.81	C
Arm 2		0.5	9.45	0.34	A		0.3	7.13	0.22	A
Arm 3		0.7	6.55	0.41	A		1.4	10.62	0.58	B
Arm 4		10.7	40.71	0.93	E		1.9	9.43	0.65	A
<b>2040 with devt.</b>										
Arm 1	D8	7.5	35.61	0.90	E	D14	5.1	23.52	0.85	C
Arm 2		0.6	10.39	0.36	B		0.3	7.45	0.23	A
Arm 3		0.8	6.85	0.43	A		1.6	11.71	0.62	B
Arm 4		15.4	55.87	0.97	F		2.0	10.13	0.68	B

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

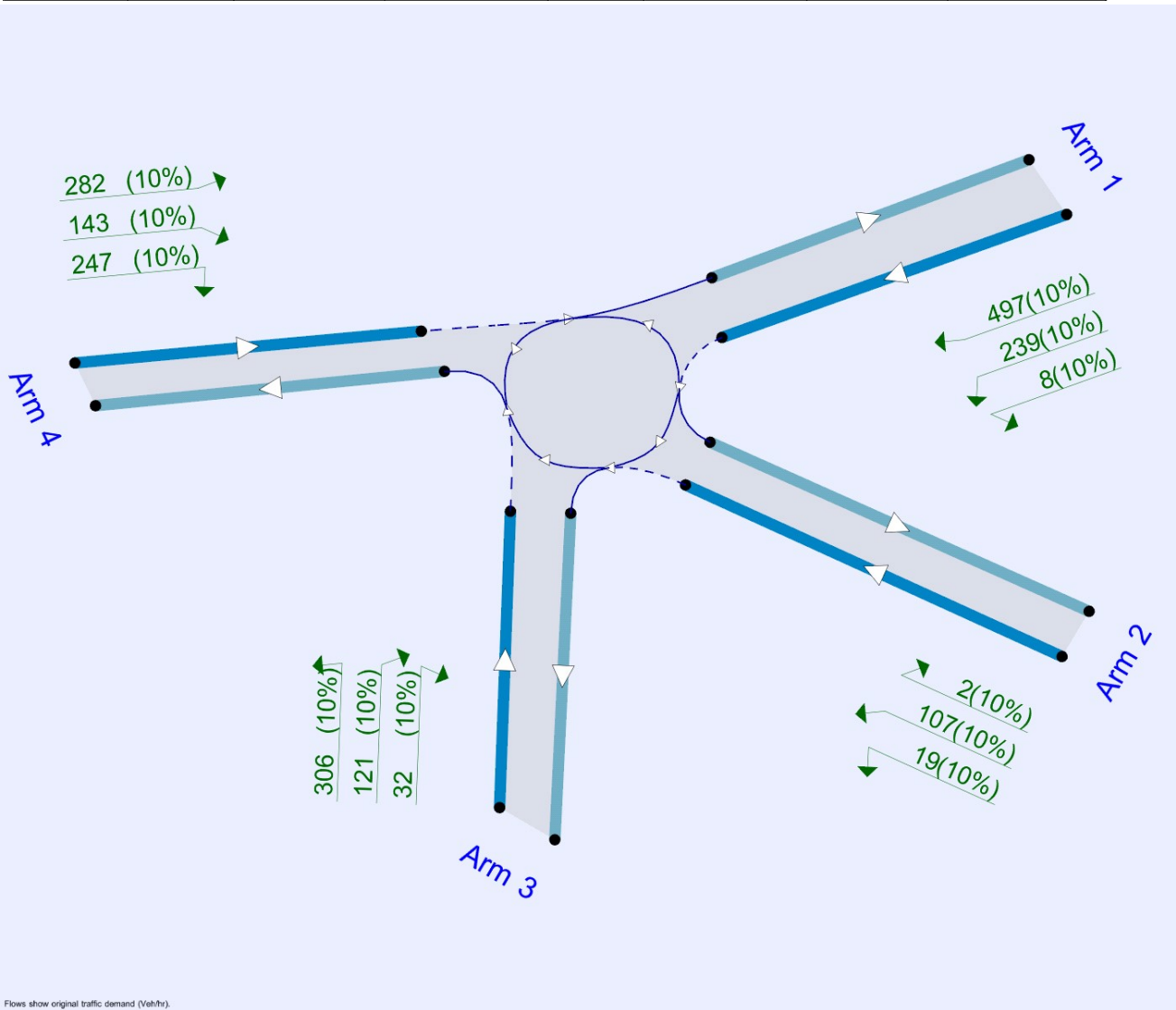
**File summary**

**File Description**

<b>Title</b>	Port Road Development
<b>Location</b>	Ballydowney Rbout
<b>Site number</b>	
<b>Date</b>	15/09/2021
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	18137HD
<b>Enumerator</b>	COB
<b>Description</b>	

**Units**

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



### Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023	AM	FLAT	08:15	09:45	90	15
D2	2023	PM	ONE HOUR	17:00	18:30		15
D3	2025 without devt.	AM	ONE HOUR	08:15	09:45		15
D4	2025 with devt.	AM	ONE HOUR	08:15	09:45		15
D5	2030 without devt.	AM	ONE HOUR	08:15	09:45		15
D6	2030 with devt.	AM	ONE HOUR	08:15	09:45		15
D7	2040 without devt.	AM	ONE HOUR	08:15	09:45		15
D8	2040 with devt.	AM	ONE HOUR	08:15	09:45		15
D9	2025 without devt.	PM	ONE HOUR	17:00	18:30		15
D10	2025 with devt.	PM	ONE HOUR	17:00	18:30		15
D11	2030 without devt.	PM	ONE HOUR	17:00	18:30		15
D12	2030 with devt.	PM	ONE HOUR	17:00	18:30		15
D13	2040 without devt.	PM	ONE HOUR	17:00	18:30		15
D14	2040 with devt.	PM	ONE HOUR	17:00	18:30		15

### Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

# 2023, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	10.97	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Name	Description
1	Dr Hans Liebherr Road	
2	St. Margaret's Road	
3	Port Road	
4	N72(W)- Ring of Kerry	

### Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.00	8.00	10.0	10.0	46.0	47.0	
2	3.00	8.00	10.0	10.0	46.0	56.0	
3	3.00	8.00	10.0	10.0	46.0	62.0	
4	3.00	8.00	10.0	10.0	46.0	53.0	

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.521	1331
2	0.503	1284
3	0.491	1253
4	0.509	1300

The slope and intercept shown above include any corrections and adjustments.

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023	AM	FLAT	08:15	09:45	90	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00



### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	647	100.000
2		✓	159	100.000
3		✓	312	100.000
4		✓	836	100.000

## Origin-Destination Data

### Demand (Veh/hr)

From	To			
	1	2	3	4
1	0	2	382	263
2	6	0	64	89
3	142	11	0	159
4	384	117	335	0

## Vehicle Mix

### Heavy Vehicle Percentages

From	To			
	1	2	3	4
1	10	10	10	10
2	10	10	10	10
3	10	10	10	10
4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.67	11.19	2.0	B
2	0.24	6.98	0.3	A
3	0.32	5.52	0.5	A
4	0.76	13.59	3.1	B

### Main Results for each time segment

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	647	457	972	0.666	639	1.9	10.592	B
2	159	968	681	0.233	158	0.3	6.865	A
3	312	354	965	0.323	310	0.5	5.478	A
4	836	158	1101	0.759	824	3.0	12.510	B

**08:30 - 08:45**

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	647	463	969	0.668	647	2.0	11.168	B
2	159	980	675	0.236	159	0.3	6.976	A
3	312	358	964	0.324	312	0.5	5.524	A
4	836	159	1101	0.760	836	3.1	13.535	B

**08:45 - 09:00**

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	647	463	969	0.668	647	2.0	11.183	B
2	159	980	675	0.236	159	0.3	6.978	A
3	312	358	964	0.324	312	0.5	5.524	A
4	836	159	1101	0.760	836	3.1	13.567	B

**09:00 - 09:15**

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	647	463	969	0.668	647	2.0	11.186	B
2	159	980	675	0.236	159	0.3	6.978	A
3	312	358	964	0.324	312	0.5	5.524	A
4	836	159	1101	0.760	836	3.1	13.580	B

**09:15 - 09:30**

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	647	463	969	0.668	647	2.0	11.189	B
2	159	980	675	0.236	159	0.3	6.978	A
3	312	358	964	0.324	312	0.5	5.524	A
4	836	159	1101	0.760	836	3.1	13.586	B

**09:30 - 09:45**

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	647	463	969	0.668	647	2.0	11.191	B
2	159	980	675	0.236	159	0.3	6.978	A
3	312	358	964	0.324	312	0.5	5.524	A
4	836	159	1101	0.760	836	3.1	13.588	B

# 2023, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	9.91	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2023	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	659	100.000
2		✓	115	100.000
3		✓	391	100.000
4		✓	593	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	7	200	452
	2	2	0	16	97
	3	103	27	0	261
	4	256	130	207	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.72	13.02	2.6	B
2	0.18	6.36	0.2	A
3	0.51	8.75	1.0	A
4	0.59	7.91	1.4	A

### Main Results for each time segment

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	496	272	1068	0.465	493	0.9	6.224	A
2	87	642	844	0.103	86	0.1	4.743	A
3	294	412	937	0.314	293	0.5	5.570	A
4	446	99	1131	0.395	444	0.6	5.219	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	592	327	1040	0.570	591	1.3	7.986	A
2	103	770	780	0.132	103	0.2	5.315	A
3	352	494	897	0.392	351	0.6	6.584	A
4	533	118	1121	0.475	532	0.9	6.100	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	726	400	1002	0.724	721	2.5	12.600	B
2	127	940	695	0.182	126	0.2	6.330	A
3	430	603	843	0.510	429	1.0	8.655	A
4	653	145	1108	0.589	651	1.4	7.841	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	726	401	1001	0.725	725	2.6	13.025	B
2	127	946	692	0.183	127	0.2	6.365	A
3	430	606	842	0.511	430	1.0	8.751	A
4	653	145	1108	0.589	653	1.4	7.913	A

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	592	328	1039	0.570	597	1.4	8.244	A
2	103	778	776	0.133	104	0.2	5.352	A
3	352	499	894	0.393	353	0.7	6.666	A
4	533	119	1121	0.476	535	0.9	6.168	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	496	275	1067	0.465	498	0.9	6.353	A
2	87	649	841	0.103	87	0.1	4.772	A
3	294	416	935	0.315	295	0.5	5.632	A
4	446	100	1131	0.395	447	0.7	5.277	A

# 2025 without devt., AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	17.15	C

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2025 without devt.	AM	ONE HOUR	08:15	09:45	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	661	100.000
2		✓	162	100.000
3		✓	318	100.000
4		✓	854	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	2	390	269
	2	6	0	65	91
	3	145	11	0	162
	4	392	120	342	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.78	16.89	3.3	C
2	0.29	8.26	0.4	A
3	0.37	6.08	0.6	A
4	0.86	23.15	5.7	C

### Main Results for each time segment

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	498	353	1026	0.485	494	0.9	6.722	A
2	122	748	792	0.154	121	0.2	5.365	A
3	239	274	1005	0.238	238	0.3	4.687	A
4	643	121	1120	0.574	638	1.3	7.388	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	594	423	989	0.601	592	1.5	9.013	A
2	146	896	717	0.203	145	0.3	6.296	A
3	286	328	978	0.292	285	0.4	5.194	A
4	768	145	1108	0.693	764	2.2	10.382	B

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	728	514	942	0.773	721	3.2	15.812	C
2	178	1090	619	0.288	178	0.4	8.142	A
3	350	400	943	0.371	349	0.6	6.056	A
4	940	178	1091	0.862	928	5.4	20.559	C

#### 09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	728	520	939	0.775	727	3.3	16.894	C
2	178	1101	614	0.291	178	0.4	8.263	A
3	350	403	942	0.372	350	0.6	6.085	A
4	940	178	1091	0.862	939	5.7	23.150	C

#### 09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	594	433	984	0.604	601	1.6	9.556	A
2	146	912	709	0.205	146	0.3	6.404	A
3	286	332	976	0.293	287	0.4	5.226	A
4	768	146	1107	0.693	781	2.3	11.472	B

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	498	358	1023	0.486	500	1.0	6.914	A
2	122	758	787	0.155	122	0.2	5.420	A
3	239	277	1003	0.239	240	0.3	4.718	A
4	643	122	1119	0.574	647	1.4	7.678	A



# 2025 with devt., AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	21.38	C

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2025 with devt.	AM	ONE HOUR	08:15	09:45	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	692	100.000
2		✓	167	100.000
3		✓	341	100.000
4		✓	881	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	2	421	269
	2	6	0	70	91
	3	155	12	0	174
	4	392	120	369	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.83	21.80	4.4	C
2	0.32	9.03	0.5	A
3	0.40	6.36	0.7	A
4	0.89	29.21	7.4	D

### Main Results for each time segment

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	521	374	1015	0.513	517	1.0	7.169	A
2	126	791	770	0.163	125	0.2	5.574	A
3	257	273	1005	0.255	255	0.3	4.793	A
4	663	130	1116	0.595	658	1.4	7.765	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	622	448	976	0.637	619	1.7	10.009	B
2	150	948	691	0.217	150	0.3	6.646	A
3	307	328	978	0.313	306	0.5	5.351	A
4	792	155	1103	0.718	788	2.4	11.295	B

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	762	542	927	0.822	752	4.1	19.551	C
2	184	1149	590	0.312	183	0.4	8.840	A
3	375	399	944	0.398	375	0.7	6.318	A
4	970	190	1085	0.894	953	6.7	24.571	C

#### 09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	762	550	923	0.825	761	4.4	21.803	C
2	184	1164	582	0.316	184	0.5	9.030	A
3	375	402	942	0.399	375	0.7	6.356	A
4	970	190	1085	0.894	967	7.4	29.206	D

#### 09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	622	461	970	0.642	632	1.8	10.977	B
2	150	970	680	0.221	151	0.3	6.814	A
3	307	333	976	0.314	307	0.5	5.392	A
4	792	156	1102	0.719	811	2.7	13.089	B

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	521	380	1012	0.515	524	1.1	7.426	A
2	126	802	764	0.165	126	0.2	5.647	A
3	257	277	1003	0.256	257	0.3	4.827	A
4	663	130	1115	0.595	668	1.5	8.133	A

# 2030 without devt., AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	23.77	C

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2030 without devt.	AM	ONE HOUR	08:15	09:45	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	698	100.000
2		✓	171	100.000
3		✓	337	100.000
4		✓	901	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	2	412	284
	2	6	0	69	96
	3	153	12	0	172
	4	414	126	361	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.83	22.45	4.6	C
2	0.32	9.10	0.5	A
3	0.40	6.43	0.7	A
4	0.91	34.07	8.8	D

### Main Results for each time segment

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	525	372	1016	0.517	521	1.1	7.220	A
2	129	789	771	0.167	128	0.2	5.593	A
3	254	288	998	0.254	252	0.3	4.821	A
4	678	128	1116	0.608	672	1.5	8.002	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	627	446	977	0.642	625	1.7	10.128	B
2	154	946	692	0.222	153	0.3	6.679	A
3	303	346	970	0.312	303	0.5	5.393	A
4	810	153	1103	0.734	805	2.6	11.899	B

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	769	538	929	0.827	758	4.2	19.977	C
2	188	1146	592	0.318	188	0.5	8.894	A
3	371	420	933	0.398	370	0.7	6.388	A
4	992	188	1086	0.913	971	7.8	27.455	D

#### 09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	769	547	925	0.831	767	4.6	22.449	C
2	188	1161	584	0.322	188	0.5	9.098	A
3	371	424	931	0.399	371	0.7	6.428	A
4	992	188	1086	0.914	988	8.8	34.075	D

#### 09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	627	461	969	0.647	638	1.9	11.197	B
2	154	970	680	0.226	154	0.3	6.862	A
3	303	352	967	0.313	304	0.5	5.436	A
4	810	154	1103	0.734	834	2.9	14.392	B

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	525	379	1013	0.519	529	1.1	7.486	A
2	129	801	765	0.168	129	0.2	5.668	A
3	254	292	996	0.255	254	0.3	4.856	A
4	678	129	1116	0.608	684	1.6	8.426	A

# 2030 with devt., AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	31.57	D

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2030 with devt.	AM	ONE HOUR	08:15	09:45	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	728	100.000
2		✓	176	100.000
3		✓	359	100.000
4		✓	928	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	2	442	284
	2	6	0	74	96
	3	163	13	0	183
	4	414	126	388	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.88	30.81	6.4	D
2	0.35	9.99	0.5	A
3	0.42	6.71	0.7	A
4	0.95	45.87	12.2	E

### Main Results for each time segment

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	548	393	1005	0.545	543	1.2	7.722	A
2	133	831	750	0.177	132	0.2	5.819	A
3	270	288	998	0.271	269	0.4	4.928	A
4	699	136	1112	0.628	692	1.6	8.442	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	654	471	965	0.679	651	2.0	11.357	B
2	158	996	667	0.237	158	0.3	7.068	A
3	323	345	970	0.333	322	0.5	5.551	A
4	834	163	1098	0.759	829	3.0	13.093	B

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	802	564	916	0.875	787	5.7	25.400	D
2	194	1200	564	0.343	193	0.5	9.674	A
3	395	419	934	0.423	394	0.7	6.663	A
4	1022	200	1080	0.946	993	10.2	33.655	D

#### 09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	802	576	910	0.881	799	6.4	30.811	D
2	194	1220	554	0.350	194	0.5	9.989	A
3	395	424	931	0.424	395	0.7	6.715	A
4	1022	200	1080	0.946	1014	12.2	45.865	E

#### 09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	654	493	953	0.687	671	2.3	13.470	B
2	158	1033	648	0.244	159	0.3	7.370	A
3	323	354	966	0.334	324	0.5	5.615	A
4	834	164	1098	0.760	870	3.4	17.854	C



09:30 - 09:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	548	400	1001	0.547	552	1.2	8.094	A
2	133	846	742	0.178	133	0.2	5.910	A
3	270	292	996	0.271	271	0.4	4.971	A
4	699	137	1112	0.628	705	1.7	8.993	A

# 2040 without devt., AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	27.61	D

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D7	2040 without devt.	AM	ONE HOUR	08:15	09:45	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	711	100.000
2		✓	175	100.000
3		✓	343	100.000
4		✓	919	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	2	420	289
	2	7	0	70	98
	3	156	12	0	175
	4	422	129	368	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.85	25.30	5.2	D
2	0.34	9.45	0.5	A
3	0.41	6.55	0.7	A
4	0.93	40.71	10.7	E

### Main Results for each time segment

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	535	380	1012	0.529	531	1.1	7.418	A
2	132	804	763	0.173	131	0.2	5.686	A
3	258	294	995	0.260	257	0.3	4.869	A
4	692	131	1115	0.621	685	1.6	8.267	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	639	455	973	0.657	636	1.9	10.597	B
2	157	963	683	0.230	157	0.3	6.836	A
3	308	353	966	0.319	308	0.5	5.465	A
4	826	157	1102	0.750	821	2.8	12.608	B

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	783	547	925	0.846	771	4.8	21.907	C
2	193	1164	582	0.331	192	0.5	9.204	A
3	378	429	929	0.407	377	0.7	6.511	A
4	1012	192	1084	0.934	987	9.2	31.056	D

#### 09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	783	557	920	0.851	781	5.2	25.296	D
2	193	1182	573	0.336	193	0.5	9.452	A
3	378	433	927	0.407	378	0.7	6.555	A
4	1012	193	1084	0.934	1006	10.7	40.712	E

#### 09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	639	474	963	0.664	652	2.0	12.008	B
2	157	993	668	0.235	158	0.3	7.067	A
3	308	360	963	0.320	309	0.5	5.515	A
4	826	158	1101	0.750	856	3.2	16.268	C

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	535	386	1008	0.531	539	1.2	7.722	A
2	132	817	757	0.174	132	0.2	5.765	A
3	258	298	993	0.260	259	0.4	4.906	A
4	692	132	1114	0.621	698	1.7	8.763	A

# 2040 with devt., AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	37.46	E

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D8	2040 with devt.	AM	ONE HOUR	08:15	09:45	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	741	100.000
2		✓	180	100.000
3		✓	365	100.000
4		✓	946	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	2	450	289
	2	7	0	75	98
	3	166	13	0	186
	4	422	129	395	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.90	35.61	7.5	E
2	0.36	10.39	0.6	B
3	0.43	6.85	0.8	A
4	0.97	55.87	15.4	F

### Main Results for each time segment

#### 08:15 - 08:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	558	400	1001	0.557	553	1.2	7.946	A
2	136	846	742	0.183	135	0.2	5.917	A
3	275	294	995	0.276	273	0.4	4.979	A
4	712	139	1111	0.641	705	1.7	8.737	A

#### 08:30 - 08:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	666	479	960	0.694	662	2.2	11.939	B
2	162	1013	658	0.246	161	0.3	7.241	A
3	328	352	966	0.340	328	0.5	5.631	A
4	850	167	1097	0.776	844	3.2	13.940	B

#### 08:45 - 09:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	816	571	912	0.895	798	6.5	28.151	D
2	198	1216	556	0.356	197	0.5	10.011	B
3	402	426	930	0.432	401	0.8	6.792	A
4	1042	204	1078	0.967	1006	12.2	38.332	E

#### 09:00 - 09:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	816	584	906	0.901	812	7.5	35.609	E
2	198	1239	545	0.364	198	0.6	10.387	B
3	402	432	927	0.433	402	0.8	6.852	A
4	1042	205	1077	0.967	1029	15.4	55.871	F

#### 09:15 - 09:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	666	509	945	0.705	686	2.5	14.899	B
2	162	1059	635	0.255	163	0.3	7.637	A
3	328	363	961	0.341	329	0.5	5.701	A
4	850	168	1096	0.776	897	3.7	21.534	C

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	558	408	997	0.560	563	1.3	8.380	A
2	136	862	734	0.185	136	0.2	6.021	A
3	275	299	993	0.277	275	0.4	5.024	A
4	712	140	1110	0.642	720	1.8	9.391	A

# 2025 without devt., PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	10.49	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D9	2025 without devt.	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	673	100.000
2		✓	117	100.000
3		✓	400	100.000
4		✓	607	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	7	204	462
	2	2	0	16	99
	3	105	28	0	267
	4	262	133	212	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10



## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.74	14.06	2.8	B
2	0.19	6.51	0.2	A
3	0.53	9.11	1.1	A
4	0.60	8.22	1.5	A

### Main Results for each time segment

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	507	279	1064	0.476	503	0.9	6.373	A
2	88	657	837	0.105	88	0.1	4.798	A
3	301	421	933	0.323	299	0.5	5.666	A
4	457	101	1130	0.404	454	0.7	5.305	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	605	335	1035	0.584	603	1.4	8.290	A
2	105	787	772	0.136	105	0.2	5.397	A
3	360	505	892	0.403	359	0.7	6.747	A
4	546	121	1120	0.487	545	0.9	6.246	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	741	409	997	0.744	736	2.7	13.510	B
2	129	961	685	0.188	129	0.2	6.471	A
3	440	616	837	0.526	439	1.1	8.998	A
4	668	148	1106	0.604	666	1.5	8.137	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	741	411	996	0.744	741	2.8	14.060	B
2	129	966	682	0.189	129	0.2	6.511	A
3	440	620	835	0.527	440	1.1	9.114	A
4	668	149	1106	0.604	668	1.5	8.221	A

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	605	337	1034	0.585	611	1.4	8.602	A
2	105	796	768	0.137	105	0.2	5.439	A
3	360	510	889	0.405	361	0.7	6.845	A
4	546	122	1120	0.487	548	1.0	6.320	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	507	282	1063	0.477	509	0.9	6.516	A
2	88	663	834	0.106	88	0.1	4.828	A
3	301	425	931	0.324	302	0.5	5.736	A
4	457	102	1130	0.405	458	0.7	5.368	A

# 2025 with devt., PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	11.62	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D10	2025 with devt.	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	692	100.000
2		✓	119	100.000
3		✓	429	100.000
4		✓	626	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	7	223	462
	2	2	0	18	99
	3	113	30	0	286
	4	262	133	231	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.77	16.10	3.3	C
2	0.20	6.80	0.2	A
3	0.57	9.91	1.3	A
4	0.63	8.75	1.7	A

### Main Results for each time segment

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	521	295	1056	0.493	517	1.0	6.633	A
2	90	685	823	0.109	89	0.1	4.901	A
3	323	421	933	0.346	321	0.5	5.864	A
4	471	108	1126	0.418	468	0.7	5.449	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	622	353	1026	0.607	620	1.5	8.824	A
2	107	821	755	0.142	107	0.2	5.554	A
3	386	505	892	0.433	385	0.8	7.088	A
4	563	130	1115	0.505	562	1.0	6.488	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	762	432	985	0.774	755	3.2	15.250	C
2	131	1001	664	0.197	131	0.2	6.742	A
3	472	615	837	0.564	470	1.3	9.749	A
4	689	159	1101	0.626	687	1.6	8.643	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	762	434	984	0.774	761	3.3	16.099	C
2	131	1008	661	0.198	131	0.2	6.796	A
3	472	620	835	0.565	472	1.3	9.910	A
4	689	160	1100	0.626	689	1.7	8.754	A

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	622	356	1024	0.607	629	1.6	9.254	A
2	107	831	750	0.143	107	0.2	5.609	A
3	386	511	889	0.434	388	0.8	7.218	A
4	563	131	1115	0.505	565	1.0	6.578	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	521	297	1055	0.494	523	1.0	6.802	A
2	90	692	819	0.109	90	0.1	4.935	A
3	323	426	930	0.347	324	0.5	5.946	A
4	471	109	1126	0.419	473	0.7	5.520	A

# 2030 without devt., PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	12.41	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D11	2030 without devt.	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	712	100.000
2		✓	124	100.000
3		✓	422	100.000
4		✓	639	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	8	216	488
	2	2	0	17	105
	3	111	29	0	282
	4	276	140	223	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.80	17.71	3.7	C
2	0.21	6.95	0.3	A
3	0.57	10.18	1.3	B
4	0.64	9.03	1.7	A

### Main Results for each time segment

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	536	293	1057	0.507	532	1.0	6.806	A
2	93	693	819	0.114	93	0.1	4.953	A
3	318	445	921	0.345	316	0.5	5.926	A
4	481	106	1128	0.427	478	0.7	5.520	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	640	352	1027	0.623	638	1.6	9.198	A
2	111	831	750	0.149	111	0.2	5.635	A
3	379	533	878	0.432	378	0.8	7.197	A
4	574	127	1117	0.514	573	1.0	6.609	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	784	430	986	0.795	776	3.6	16.568	C
2	137	1012	659	0.207	136	0.3	6.885	A
3	465	649	821	0.566	463	1.3	9.995	A
4	704	156	1102	0.638	701	1.7	8.905	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	784	432	985	0.796	783	3.7	17.713	C
2	137	1020	655	0.209	137	0.3	6.947	A
3	465	655	818	0.568	465	1.3	10.177	B
4	704	156	1102	0.638	703	1.7	9.027	A

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	640	354	1025	0.624	648	1.7	9.739	A
2	111	842	744	0.150	112	0.2	5.696	A
3	379	541	874	0.434	381	0.8	7.341	A
4	574	128	1116	0.515	577	1.1	6.709	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	536	296	1056	0.508	539	1.0	7.000	A
2	93	701	815	0.115	94	0.1	4.990	A
3	318	450	918	0.346	319	0.5	6.011	A
4	481	107	1127	0.427	482	0.8	5.597	A



# 2030 with devt., PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	14.11	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D12	2030 with devt.	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	731	100.000
2		✓	125	100.000
3		✓	451	100.000
4		✓	659	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	8	235	488
	2	2	0	18	105
	3	119	31	0	301
	4	276	140	243	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.83	21.06	4.5	C
2	0.22	7.26	0.3	A
3	0.61	11.18	1.5	B
4	0.66	9.70	1.9	A

### Main Results for each time segment

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	550	310	1048	0.525	546	1.1	7.105	A
2	94	722	805	0.117	94	0.1	5.060	A
3	340	445	921	0.369	337	0.6	6.147	A
4	496	114	1124	0.442	493	0.8	5.681	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	657	371	1016	0.647	654	1.8	9.869	A
2	112	865	732	0.153	112	0.2	5.802	A
3	405	533	878	0.462	404	0.8	7.587	A
4	592	136	1112	0.533	591	1.1	6.890	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	805	454	973	0.827	795	4.3	19.172	C
2	138	1053	638	0.216	137	0.3	7.181	A
3	497	648	821	0.605	494	1.5	10.897	B
4	726	166	1097	0.662	722	1.9	9.537	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	805	456	972	0.828	804	4.5	21.063	C
2	138	1063	633	0.217	138	0.3	7.262	A
3	497	654	818	0.607	496	1.5	11.178	B
4	726	167	1096	0.662	725	1.9	9.695	A

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	657	374	1015	0.648	668	1.9	10.659	B
2	112	880	725	0.155	113	0.2	5.883	A
3	405	542	873	0.464	408	0.9	7.779	A
4	592	137	1112	0.533	595	1.2	7.018	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	550	313	1047	0.526	553	1.1	7.340	A
2	94	731	800	0.118	94	0.1	5.104	A
3	340	450	918	0.370	341	0.6	6.245	A
4	496	115	1123	0.442	498	0.8	5.769	A

# 2040 without devt., PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	13.32	B

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D13	2040 without devt.	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	725	100.000
2		✓	127	100.000
3		✓	430	100.000
4		✓	653	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	8	220	497
	2	2	0	18	107
	3	113	30	0	287
	4	282	143	228	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.81	19.52	4.2	C
2	0.22	7.13	0.3	A
3	0.58	10.62	1.4	B
4	0.65	9.43	1.9	A

### Main Results for each time segment

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	546	300	1053	0.518	542	1.1	6.976	A
2	96	706	812	0.118	95	0.1	5.015	A
3	324	453	917	0.353	322	0.5	6.024	A
4	492	108	1126	0.436	489	0.8	5.617	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	652	360	1022	0.637	649	1.7	9.575	A
2	114	846	742	0.154	114	0.2	5.732	A
3	387	543	873	0.443	386	0.8	7.372	A
4	587	130	1115	0.526	586	1.1	6.780	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	798	440	981	0.814	789	4.0	17.999	C
2	140	1031	649	0.215	139	0.3	7.055	A
3	473	661	815	0.581	471	1.3	10.399	B
4	719	159	1101	0.653	716	1.8	9.286	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	798	441	980	0.815	797	4.2	19.521	C
2	140	1040	645	0.217	140	0.3	7.128	A
3	473	667	812	0.583	473	1.4	10.617	B
4	719	160	1100	0.653	719	1.9	9.430	A

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	652	362	1021	0.638	661	1.8	10.248	B
2	114	860	735	0.155	115	0.2	5.805	A
3	387	552	869	0.445	389	0.8	7.539	A
4	587	131	1115	0.527	590	1.1	6.895	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	546	303	1052	0.519	549	1.1	7.191	A
2	96	715	808	0.118	96	0.1	5.055	A
3	324	458	914	0.354	325	0.6	6.116	A
4	492	110	1126	0.437	493	0.8	5.702	A

# 2040 with devt., PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Ballydowney Road	Standard Roundabout		1, 2, 3, 4	15.29	C

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D14	2040 with devt.	PM	ONE HOUR	17:00	18:30	15

Default vehicle mix	Vehicle mix source	PCU Factor for a HV (PCU)
✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		✓	744	100.000
2		✓	128	100.000
3		✓	459	100.000
4		✓	672	100.000

## Origin-Destination Data

### Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	8	239	497
	2	2	0	19	107
	3	121	32	0	306
	4	282	143	247	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	10	10	10	10
	2	10	10	10	10
	3	10	10	10	10
	4	10	10	10	10

## Results

### Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS
1	0.85	23.52	5.1	C
2	0.23	7.45	0.3	A
3	0.62	11.71	1.6	B
4	0.68	10.13	2.0	B

### Main Results for each time segment

#### 17:00 - 17:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	560	316	1045	0.536	556	1.1	7.285	A
2	96	734	798	0.121	96	0.1	5.122	A
3	346	453	917	0.377	343	0.6	6.246	A
4	506	116	1123	0.451	503	0.8	5.777	A

#### 17:15 - 17:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	669	378	1013	0.661	666	1.9	10.291	B
2	115	880	725	0.159	115	0.2	5.899	A
3	413	543	873	0.473	411	0.9	7.780	A
4	604	139	1111	0.544	603	1.2	7.064	A

#### 17:30 - 17:45

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	819	462	969	0.845	808	4.8	20.961	C
2	141	1070	630	0.224	141	0.3	7.352	A
3	505	659	816	0.619	503	1.6	11.390	B
4	740	170	1095	0.676	737	2.0	9.941	A

#### 17:45 - 18:00

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	819	465	968	0.846	818	5.1	23.519	C
2	141	1081	624	0.226	141	0.3	7.451	A
3	505	666	812	0.622	505	1.6	11.708	B
4	740	171	1095	0.676	740	2.0	10.130	B

#### 18:00 - 18:15

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	669	382	1011	0.662	681	2.0	11.292	B
2	115	897	716	0.161	115	0.2	5.995	A
3	413	553	868	0.476	415	0.9	8.005	A
4	604	140	1110	0.544	607	1.2	7.209	A



18:15 - 18:30

Arm	Total Demand (Veh/hr)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	560	319	1044	0.537	563	1.2	7.549	A
2	96	744	793	0.121	97	0.1	5.169	A
3	346	459	914	0.378	347	0.6	6.357	A
4	506	117	1122	0.451	507	0.8	5.874	A

<h1>Junctions 9</h1>
<h2>PICADY 9 - Priority Intersection Module</h2>
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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**Filename:** J3- Port Road Junction.j9 23042024.j9

**Path:** N:\HOUS\_DEV\18137\_Port Road Killarney\Planning\April 2024\Documents\DOC02 TTA (Traffic and Transportation Report)\Modelling\Junction 3\_Port Rd\_New Rd

**Report generation date:** 24/04/2024 13:12:02

- 
- »2023 Existing, AM
  - »2023 Existing, PM
  - »2025 Without devt, AM
  - »2025 With devt, AM
  - »2025 Without devt, PM
  - »2025 With devt, PM
  - »2030 Without devt, AM
  - »2030 With devt, AM
  - »2030 Without devt, PM
  - »2030 With devt, PM
  - »2040 Without devt, AM
  - »2040 With devt, AM
  - »2040 Without devt, PM
  - »2040 With devt, PM

### Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023 Existing</b>										
Stream B-C	D1	0.0	7.73	0.04	A	D2	0.2	8.65	0.12	A
Stream B-A		0.1	16.90	0.04	C		0.3	13.24	0.19	B
Stream C-AB		0.8	8.08	0.32	A		0.1	5.17	0.06	A
<b>2025 Without devt</b>										
Stream B-C	D3	0.0	7.80	0.04	A	D5	0.2	8.73	0.13	A
Stream B-A		0.1	17.27	0.05	C		0.3	13.47	0.19	B
Stream C-AB		0.8	8.20	0.33	A		0.1	5.17	0.06	A
<b>2025 With devt</b>										
Stream B-C	D4	0.1	8.05	0.05	A	D6	0.2	9.13	0.13	A
Stream B-A		0.1	18.48	0.05	C		0.3	14.23	0.22	B
Stream C-AB		0.9	8.34	0.35	A		0.1	5.12	0.06	A
<b>2030 Without devt</b>										
Stream B-C	D7	0.1	8.02	0.05	A	D9	0.2	9.01	0.14	A
Stream B-A		0.1	18.45	0.05	C		0.3	14.18	0.21	B
Stream C-AB		1.0	8.63	0.36	A		0.1	5.15	0.07	A
<b>2030 With devt</b>										
Stream B-C	D8	0.1	8.29	0.05	A	D10	0.2	9.42	0.14	A
Stream B-A		0.1	19.86	0.06	C		0.3	15.02	0.24	C
Stream C-AB		1.1	8.82	0.38	A		0.1	5.09	0.07	A
<b>2040 Without devt</b>										
Stream B-C	D11	0.1	8.09	0.05	A	D13	0.2	9.09	0.14	A
Stream B-A		0.1	18.90	0.05	C		0.3	14.41	0.22	B
Stream C-AB		1.1	8.78	0.37	A		0.1	5.14	0.07	A
<b>2040 With devt</b>										
Stream B-C	D12	0.1	8.42	0.05	A	D14	0.2	9.52	0.15	A
Stream B-A		0.1	20.08	0.06	C		0.3	15.30	0.24	C
Stream C-AB		1.2	9.00	0.40	A		0.1	5.08	0.07	A

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

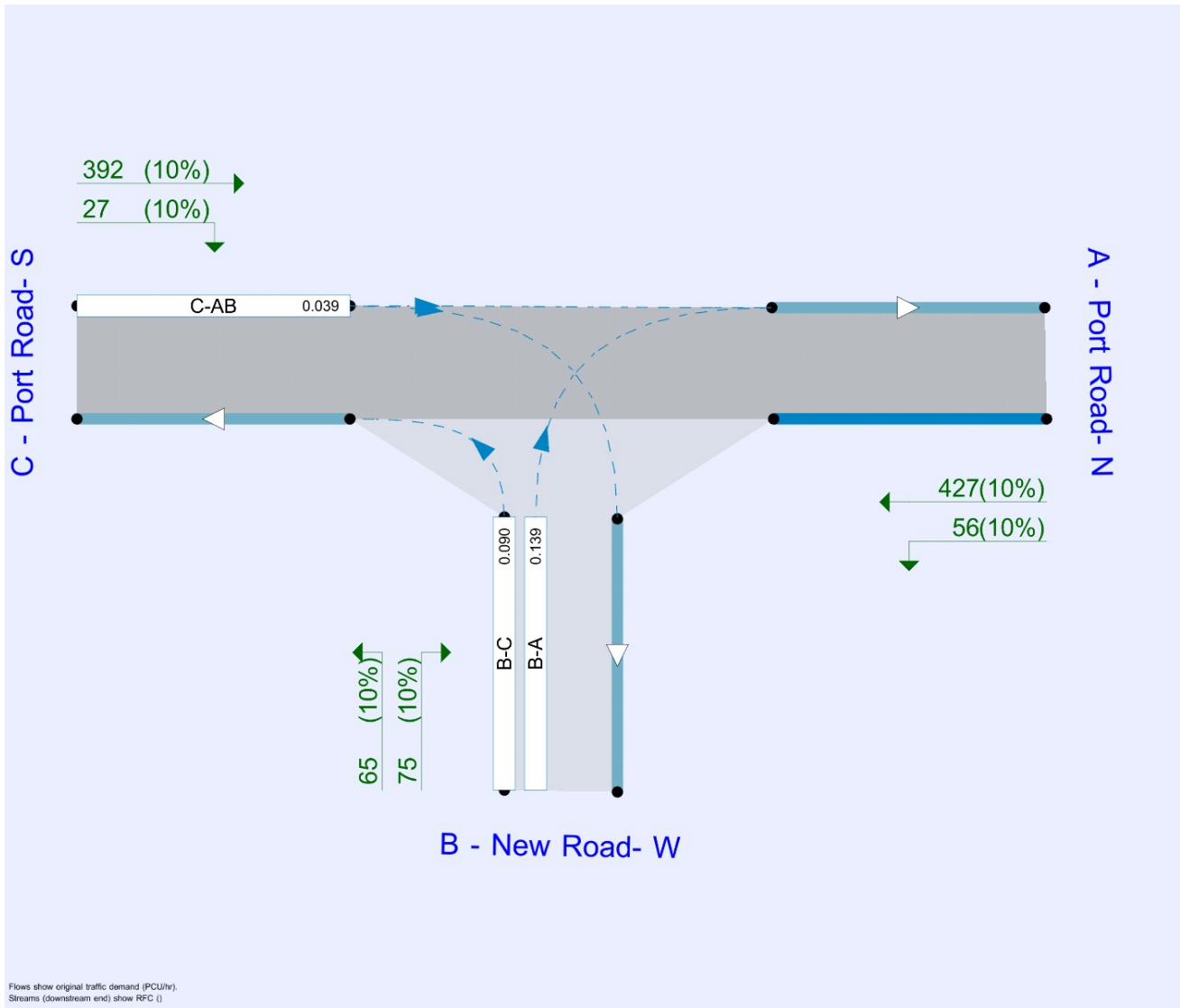
### File summary

#### File Description

Title	Port Road, Killarney
Location	
Site number	
Date	15/09/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	COB
Description	

### 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	s	-Min	perMin



**Analysis Options**

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75		✓		0.85	36.00	20.00

### Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Existing	AM	ONE HOUR	08:00	09:30	15	✓
D2	2023 Existing	PM	ONE HOUR	17:00	18:30	15	✓
D3	2025 Without devt	AM	ONE HOUR	08:00	09:30	15	✓
D4	2025 With devt	AM	ONE HOUR	08:00	09:30	15	✓
D5	2025 Without devt	PM	ONE HOUR	17:00	18:30	15	✓
D6	2025 With devt	PM	ONE HOUR	17:00	18:30	15	✓
D7	2030 Without devt	AM	ONE HOUR	08:00	09:30	15	✓
D8	2030 With devt	AM	ONE HOUR	08:00	09:30	15	✓
D9	2030 Without devt	PM	ONE HOUR	17:00	18:30	15	✓
D10	2030 With devt	PM	ONE HOUR	17:00	18:30	15	✓
D11	2040 Without devt	AM	ONE HOUR	08:00	09:30	15	✓
D12	2040 With devt	AM	ONE HOUR	08:00	09:30	15	✓
D13	2040 Without devt	PM	ONE HOUR	17:00	18:30	15	✓
D14	2040 With devt	PM	ONE HOUR	17:00	18:30	15	✓

### Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

# 2023 Existing, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.50	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Arms

### Arms

Arm	Name	Description	Arm type
A	Port Road- N		Major
B	New Road- W		Minor
C	Port Road- S		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Port Road- S	6.00			250.0	✓	0.00

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

### Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - New Road- W	One lane plus flare	6.00	6.00	4.00	3.50	3.50		1.00	70	70

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	482	0.088	0.222	0.139	0.317
B-C	722	0.111	0.280	-	-
C-B	719	0.278	0.278	-	-

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

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

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

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Existing	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	783	100.000
B - New Road- W		ONE HOUR	✓	30	100.000
C - Port Road- S		ONE HOUR	✓	410	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	272	511
	B - New Road- W	10	0	20
	C - Port Road- S	298	112	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.04	7.73	0.0	A	18	28	3.32	7.24	0.04	3.32	7.24
B-A	0.04	16.90	0.1	C	9	14	3.35	14.60	0.04	3.35	14.60
C-AB	0.32	8.08	0.8	A	171	257	48.01	11.22	0.53	48.01	11.22

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4	588	0.026	15	0.0	0.0	6.910	A
B-A	8	2	320	0.024	7	0.0	0.0	12.650	B
C-AB	123	31	710	0.174	122	0.0	0.3	6.732	A

**08:15 - 08:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4	572	0.031	18	0.0	0.0	7.151	A
B-A	9	2	289	0.031	9	0.0	0.0	14.142	B
C-AB	162	40	713	0.227	161	0.3	0.5	7.182	A

**08:30 - 08:45**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6	534	0.041	22	0.0	0.0	7.729	A
B-A	11	3	246	0.045	11	0.0	0.1	16.878	C
C-AB	228	57	720	0.316	226	0.5	0.8	8.038	A

**08:45 - 09:00**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6	534	0.041	22	0.0	0.0	7.733	A
B-A	11	3	245	0.045	11	0.1	0.1	16.896	C
C-AB	228	57	721	0.317	228	0.8	0.8	8.077	A

**09:00 - 09:15**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4	571	0.031	18	0.0	0.0	7.162	A
B-A	9	2	289	0.031	9	0.1	0.0	14.159	B
C-AB	162	41	714	0.228	164	0.8	0.5	7.228	A

**09:15 - 09:30**

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4	598	0.025	15	0.0	0.0	6.795	A
B-A	8	2	320	0.024	8	0.0	0.0	12.662	B
C-AB	124	31	710	0.174	124	0.5	0.3	6.774	A

**Queueing Delay Results for each time segment**

**08:00 - 08:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.42	0.03	6.910	A
B-A	0.37	0.02	12.650	B
C-AB	4.77	0.32	6.732	A

**08:15 - 08:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.52	0.03	7.151	A
B-A	0.51	0.03	14.142	B
C-AB	7.09	0.47	7.182	A

**08:30 - 08:45**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.69	0.05	7.729	A
B-A	0.73	0.05	16.878	C
C-AB	11.78	0.79	8.038	A



**08:45 - 09:00**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.71	0.05	7.733	A
B-A	0.76	0.05	16.896	C
C-AB	12.02	0.80	8.077	A

**09:00 - 09:15**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.55	0.04	7.162	A
B-A	0.56	0.04	14.159	B
C-AB	7.35	0.49	7.228	A

**09:15 - 09:30**

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.44	0.03	6.795	A
B-A	0.42	0.03	12.662	B
C-AB	4.99	0.33	6.774	A

# 2023 Existing, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.75	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023 Existing	PM	ONE HOUR	17:00	18:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	411	100.000
B - New Road- W		ONE HOUR	✓	122	100.000
C - Port Road- S		ONE HOUR	✓	353	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	48	363
	B - New Road- W	63	0	59
	C - Port Road- S	328	25	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.12	8.65	0.2	A	54	81	10.88	8.04	0.12	10.88	8.04
B-A	0.19	13.24	0.3	B	58	87	17.00	11.76	0.19	17.00	11.76
C-AB	0.06	5.17	0.1	A	37	56	6.75	7.26	0.07	6.75	7.26

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	11	570	0.078	44	0.0	0.1	7.520	A
B-A	47	12	423	0.112	47	0.0	0.1	10.508	B
C-AB	27	7	793	0.034	27	0.0	0.1	5.171	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13	551	0.096	53	0.1	0.1	7.950	A
B-A	57	14	400	0.141	56	0.1	0.2	11.509	B
C-AB	35	9	810	0.044	35	0.1	0.1	5.112	A

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	523	0.124	65	0.1	0.2	8.640	A
B-A	69	17	368	0.188	69	0.2	0.3	13.219	B
C-AB	49	12	835	0.058	49	0.1	0.1	5.035	A

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	523	0.124	65	0.2	0.2	8.650	A
B-A	69	17	368	0.188	69	0.3	0.3	13.243	B
C-AB	49	12	835	0.058	49	0.1	0.1	5.038	A

#### 18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13	550	0.096	53	0.2	0.1	7.967	A
B-A	57	14	400	0.141	57	0.3	0.2	11.537	B
C-AB	35	9	810	0.044	36	0.1	0.1	5.117	A

#### 18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	11	570	0.078	45	0.1	0.1	7.545	A
B-A	47	12	423	0.112	48	0.2	0.1	10.543	B
C-AB	27	7	793	0.035	27	0.1	0.1	5.175	A

### Queueing Delay Results for each time segment

#### 17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.33	0.09	7.520	A
B-A	1.96	0.13	10.508	B
C-AB	0.76	0.05	5.171	A

#### 17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.70	0.11	7.950	A
B-A	2.60	0.17	11.509	B
C-AB	1.05	0.07	5.112	A

#### 17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.26	0.15	8.640	A
B-A	3.63	0.24	13.219	B
C-AB	1.54	0.10	5.035	A

#### 17:45 - 18:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.32	0.15	8.650	A
B-A	3.78	0.25	13.243	B
C-AB	1.56	0.10	5.038	A

#### 18:00 - 18:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.82	0.12	7.967	A
B-A	2.85	0.19	11.537	B
C-AB	1.06	0.07	5.117	A

#### 18:15 - 18:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.44	0.10	7.545	A
B-A	2.17	0.14	10.543	B
C-AB	0.78	0.05	5.175	A

# 2025 Without devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.53	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 Without devt	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	800	100.000
B - New Road- W		ONE HOUR	✓	30	100.000
C - Port Road- S		ONE HOUR	✓	419	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	278	522
	B - New Road- W	10	0	20
	C - Port Road- S	305	114	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.04	7.80	0.0	A	18	28	3.34	7.29	0.04	3.35	7.29
B-A	0.05	17.27	0.1	C	9	14	3.41	14.85	0.04	3.41	14.85
C-AB	0.33	8.20	0.8	A	177	265	50.52	11.42	0.56	50.53	11.42

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4	585	0.026	15	0.0	0.0	6.944	A
B-A	8	2	317	0.024	7	0.0	0.0	12.791	B
C-AB	127	32	710	0.179	125	0.0	0.3	6.764	A

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4	568	0.032	18	0.0	0.0	7.196	A
B-A	9	2	285	0.032	9	0.0	0.0	14.353	B
C-AB	167	42	714	0.234	166	0.3	0.5	7.238	A

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6	530	0.042	22	0.0	0.0	7.794	A
B-A	11	3	240	0.046	11	0.0	0.1	17.247	C
C-AB	236	59	721	0.327	235	0.5	0.8	8.152	A

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6	530	0.042	22	0.0	0.0	7.798	A
B-A	11	3	240	0.046	11	0.1	0.1	17.270	C
C-AB	237	59	722	0.328	237	0.8	0.8	8.196	A

#### 09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4	568	0.032	18	0.0	0.0	7.208	A
B-A	9	2	285	0.032	9	0.1	0.0	14.369	B
C-AB	168	42	715	0.234	169	0.8	0.5	7.288	A

#### 09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4	595	0.025	15	0.0	0.0	6.827	A
B-A	8	2	317	0.024	8	0.0	0.0	12.806	B
C-AB	127	32	711	0.179	128	0.5	0.3	6.811	A

### Queueing Delay Results for each time segment

#### 08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.42	0.03	6.944	A
B-A	0.38	0.03	12.791	B
C-AB	4.95	0.33	6.764	A

#### 08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.52	0.03	7.196	A
B-A	0.51	0.03	14.353	B
C-AB	7.42	0.49	7.238	A

#### 08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.69	0.05	7.794	A
B-A	0.75	0.05	17.247	C
C-AB	12.48	0.83	8.152	A

#### 08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.71	0.05	7.798	A
B-A	0.78	0.05	17.270	C
C-AB	12.75	0.85	8.196	A

#### 09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.56	0.04	7.208	A
B-A	0.57	0.04	14.369	B
C-AB	7.71	0.51	7.288	A

#### 09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.44	0.03	6.827	A
B-A	0.42	0.03	12.806	B
C-AB	5.20	0.35	6.811	A

# 2025 With devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.56	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 With devt	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	852	100.000
B - New Road- W		ONE HOUR	✓	33	100.000
C - Port Road- S		ONE HOUR	✓	444	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	296	556
	B - New Road- W	11	0	22
	C - Port Road- S	330	114	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.05	8.05	0.1	A	20	30	3.78	7.48	0.04	3.78	7.48
B-A	0.05	18.48	0.1	C	10	15	3.95	15.64	0.04	3.95	15.64
C-AB	0.35	8.34	0.9	A	187	280	55.79	11.96	0.62	55.79	11.96

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	576	0.029	16	0.0	0.0	7.075	A
B-A	8	2	307	0.027	8	0.0	0.0	13.223	B
C-AB	132	33	714	0.184	130	0.0	0.4	6.777	A

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	557	0.036	20	0.0	0.0	7.369	A
B-A	10	2	273	0.036	10	0.0	0.0	15.020	C
C-AB	175	44	719	0.244	174	0.4	0.5	7.282	A

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	516	0.047	24	0.0	0.1	8.046	A
B-A	12	3	227	0.053	12	0.0	0.1	18.461	C
C-AB	252	63	729	0.345	250	0.5	0.9	8.289	A

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	516	0.047	24	0.1	0.1	8.053	A
B-A	12	3	226	0.054	12	0.1	0.1	18.483	C
C-AB	252	63	730	0.346	252	0.9	0.9	8.341	A

#### 09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	556	0.036	20	0.1	0.0	7.382	A
B-A	10	2	273	0.036	10	0.1	0.0	15.044	C
C-AB	176	44	720	0.244	177	0.9	0.6	7.337	A

#### 09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	586	0.028	17	0.0	0.0	6.959	A
B-A	8	2	307	0.027	8	0.0	0.0	13.244	B
C-AB	132	33	715	0.185	133	0.6	0.4	6.827	A

### Queueing Delay Results for each time segment

#### 08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.47	0.03	7.075	A
B-A	0.43	0.03	13.223	B
C-AB	5.29	0.35	6.777	A

#### 08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.59	0.04	7.369	A
B-A	0.59	0.04	15.020	C
C-AB	8.07	0.54	7.282	A

#### 08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.79	0.05	8.046	A
B-A	0.87	0.06	18.461	C
C-AB	14.03	0.94	8.289	A

#### 08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.81	0.05	8.053	A
B-A	0.92	0.06	18.483	C
C-AB	14.37	0.96	8.341	A

#### 09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.63	0.04	7.382	A
B-A	0.66	0.04	15.044	C
C-AB	8.44	0.56	7.337	A

#### 09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.49	0.03	6.959	A
B-A	0.48	0.03	13.244	B
C-AB	5.58	0.37	6.827	A

# 2025 Without devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.78	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Without devt	PM	ONE HOUR	17:00	18:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	420	100.000
B - New Road- W		ONE HOUR	✓	124	100.000
C - Port Road- S		ONE HOUR	✓	361	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	49	371
	B - New Road- W	64	0	60
	C - Port Road- S	335	26	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.13	8.73	0.2	A	55	83	11.15	8.10	0.12	11.15	8.10
B-A	0.19	13.47	0.3	B	59	88	17.51	11.92	0.19	17.51	11.92
C-AB	0.06	5.17	0.1	A	39	59	7.20	7.37	0.08	7.20	7.37

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	45	11	568	0.079	45	0.0	0.1	7.558	A
B-A	48	12	420	0.115	48	0.0	0.1	10.605	B
C-AB	29	7	795	0.036	28	0.0	0.1	5.168	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	13	548	0.098	54	0.1	0.1	8.004	A
B-A	58	14	397	0.145	57	0.1	0.2	11.651	B
C-AB	37	9	812	0.046	37	0.1	0.1	5.109	A

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	66	17	520	0.127	66	0.1	0.2	8.721	A
B-A	70	18	364	0.193	70	0.2	0.3	13.450	B
C-AB	51	13	838	0.061	51	0.1	0.1	5.033	A

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	66	17	520	0.127	66	0.2	0.2	8.732	A
B-A	70	18	364	0.193	70	0.3	0.3	13.474	B
C-AB	51	13	838	0.061	51	0.1	0.1	5.037	A

#### 18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	13	548	0.098	54	0.2	0.1	8.022	A
B-A	58	14	397	0.145	58	0.3	0.2	11.680	B
C-AB	37	9	812	0.046	37	0.1	0.1	5.112	A

#### 18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	45	11	568	0.080	45	0.1	0.1	7.584	A
B-A	48	12	421	0.115	48	0.2	0.1	10.643	B
C-AB	29	7	795	0.036	29	0.1	0.1	5.172	A

### Queueing Delay Results for each time segment

#### 17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.36	0.09	7.558	A
B-A	2.01	0.13	10.605	B
C-AB	0.80	0.05	5.168	A

#### 17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.74	0.12	8.004	A
B-A	2.68	0.18	11.651	B
C-AB	1.11	0.07	5.109	A

#### 17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.32	0.15	8.721	A
B-A	3.75	0.25	13.450	B
C-AB	1.65	0.11	5.033	A

#### 17:45 - 18:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.38	0.16	8.732	A
B-A	3.91	0.26	13.474	B
C-AB	1.67	0.11	5.037	A

#### 18:00 - 18:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.86	0.12	8.022	A
B-A	2.93	0.20	11.680	B
C-AB	1.13	0.08	5.112	A

#### 18:15 - 18:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.47	0.10	7.584	A
B-A	2.23	0.15	10.643	B
C-AB	0.83	0.06	5.172	A

# 2025 With devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.82	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 With devt	PM	ONE HOUR	17:00	18:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	452	100.000
B - New Road- W		ONE HOUR	✓	130	100.000
C - Port Road- S		ONE HOUR	✓	392	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	53	399
	B - New Road- W	70	0	60
	C - Port Road- S	366	26	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.13	9.13	0.2	A	55	83	11.56	8.40	0.13	11.57	8.40
B-A	0.22	14.23	0.3	B	64	96	19.91	12.40	0.22	19.92	12.40
C-AB	0.06	5.12	0.1	A	41	62	7.56	7.35	0.08	7.56	7.35

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	45	11	553	0.082	45	0.0	0.1	7.783	A
B-A	53	13	417	0.126	52	0.0	0.2	10.842	B
C-AB	30	7	804	0.037	30	0.0	0.1	5.112	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	13	532	0.101	54	0.1	0.1	8.285	A
B-A	63	16	391	0.161	63	0.2	0.2	12.051	B
C-AB	39	10	824	0.047	39	0.1	0.1	5.046	A

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	66	17	500	0.132	66	0.1	0.2	9.109	A
B-A	77	19	355	0.217	77	0.2	0.3	14.195	B
C-AB	54	14	853	0.064	54	0.1	0.1	4.958	A

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	66	17	500	0.132	66	0.2	0.2	9.126	A
B-A	77	19	355	0.217	77	0.3	0.3	14.228	B
C-AB	54	14	853	0.064	54	0.1	0.1	4.958	A

#### 18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	13	531	0.102	54	0.2	0.1	8.304	A
B-A	63	16	391	0.161	63	0.3	0.2	12.088	B
C-AB	39	10	824	0.047	39	0.1	0.1	5.047	A

#### 18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	45	11	552	0.082	45	0.1	0.1	7.811	A
B-A	53	13	417	0.126	53	0.2	0.2	10.885	B
C-AB	30	7	804	0.037	30	0.1	0.1	5.118	A

### Queueing Delay Results for each time segment

#### 17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.40	0.09	7.783	A
B-A	2.25	0.15	10.842	B
C-AB	0.83	0.06	5.112	A

#### 17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.80	0.12	8.285	A
B-A	3.02	0.20	12.051	B
C-AB	1.16	0.08	5.046	A

#### 17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.42	0.16	9.109	A
B-A	4.31	0.29	14.195	B
C-AB	1.75	0.12	4.958	A

#### 17:45 - 18:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.49	0.17	9.126	A
B-A	4.51	0.30	14.228	B
C-AB	1.77	0.12	4.958	A

#### 18:00 - 18:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.93	0.13	8.304	A
B-A	3.33	0.22	12.088	B
C-AB	1.18	0.08	5.047	A

#### 18:15 - 18:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.52	0.10	7.811	A
B-A	2.49	0.17	10.885	B
C-AB	0.86	0.06	5.118	A



# 2030 Without devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.68	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2030 Without devt	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	844	100.000
B - New Road- W		ONE HOUR	✓	33	100.000
C - Port Road- S		ONE HOUR	✓	442	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	293	551
	B - New Road- W	11	0	22
	C - Port Road- S	321	121	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.05	8.02	0.1	A	20	30	3.76	7.46	0.04	3.76	7.46
B-A	0.05	18.45	0.1	C	10	15	3.94	15.61	0.04	3.94	15.61
C-AB	0.36	8.63	1.0	A	195	292	58.63	12.04	0.65	58.64	12.04

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	577	0.029	16	0.0	0.0	7.059	A
B-A	8	2	308	0.027	8	0.0	0.0	13.209	B
C-AB	138	35	711	0.194	137	0.0	0.4	6.889	A

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	559	0.035	20	0.0	0.0	7.348	A
B-A	10	2	274	0.036	10	0.0	0.0	15.000	C
C-AB	183	46	715	0.256	182	0.4	0.6	7.444	A

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	518	0.047	24	0.0	0.1	8.015	A
B-A	12	3	227	0.053	12	0.0	0.1	18.425	C
C-AB	262	65	724	0.362	260	0.6	1.0	8.566	A

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	518	0.047	24	0.1	0.1	8.022	A
B-A	12	3	227	0.053	12	0.1	0.1	18.449	C
C-AB	263	66	725	0.363	263	1.0	1.0	8.625	A

#### 09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	558	0.035	20	0.1	0.0	7.358	A
B-A	10	2	274	0.036	10	0.1	0.0	15.026	C
C-AB	184	46	716	0.257	186	1.0	0.6	7.511	A

#### 09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	587	0.028	17	0.0	0.0	6.943	A
B-A	8	2	308	0.027	8	0.0	0.0	13.234	B
C-AB	139	35	711	0.195	140	0.6	0.4	6.947	A

### Queueing Delay Results for each time segment

#### 08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.47	0.03	7.059	A
B-A	0.43	0.03	13.209	B
C-AB	5.55	0.37	6.889	A

#### 08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.59	0.04	7.348	A
B-A	0.59	0.04	15.000	C
C-AB	8.47	0.56	7.444	A

#### 08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.78	0.05	8.015	A
B-A	0.87	0.06	18.425	C
C-AB	14.76	0.98	8.566	A

#### 08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.80	0.05	8.022	A
B-A	0.92	0.06	18.449	C
C-AB	15.14	1.01	8.625	A

#### 09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.63	0.04	7.358	A
B-A	0.65	0.04	15.026	C
C-AB	8.86	0.59	7.511	A

#### 09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.49	0.03	6.943	A
B-A	0.48	0.03	13.234	B
C-AB	5.85	0.39	6.947	A

# 2030 With devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.73	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2030 With devt	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	896	100.000
B - New Road- W		ONE HOUR	✓	36	100.000
C - Port Road- S		ONE HOUR	✓	468	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	311	585
	B - New Road- W	12	0	24
	C - Port Road- S	347	121	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.05	8.29	0.1	A	22	33	4.22	7.66	0.05	4.22	7.66
B-A	0.06	19.86	0.1	C	11	17	4.54	16.50	0.05	4.54	16.51
C-AB	0.38	8.82	1.1	A	206	309	65.17	12.66	0.72	65.18	12.66

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5	568	0.032	18	0.0	0.0	7.195	A
B-A	9	2	298	0.030	9	0.0	0.0	13.686	B
C-AB	144	36	715	0.201	142	0.0	0.4	6.903	A

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	5	547	0.039	22	0.0	0.0	7.529	A
B-A	11	3	262	0.041	11	0.0	0.0	15.734	C
C-AB	193	48	721	0.267	192	0.4	0.6	7.492	A

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	7	504	0.052	26	0.0	0.1	8.285	A
B-A	13	3	213	0.062	13	0.0	0.1	19.813	C
C-AB	280	70	733	0.383	278	0.6	1.1	8.744	A

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	7	504	0.052	26	0.1	0.1	8.294	A
B-A	13	3	213	0.062	13	0.1	0.1	19.857	C
C-AB	281	70	734	0.383	281	1.1	1.1	8.821	A

#### 09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	5	547	0.039	22	0.1	0.0	7.541	A
B-A	11	3	262	0.041	11	0.1	0.0	15.771	C
C-AB	194	48	722	0.268	196	1.1	0.6	7.571	A

#### 09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5	578	0.031	18	0.0	0.0	7.077	A
B-A	9	2	298	0.030	9	0.0	0.0	13.710	B
C-AB	144	36	716	0.202	145	0.6	0.4	6.963	A

### Queueing Delay Results for each time segment

#### 08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.52	0.03	7.195	A
B-A	0.48	0.03	13.686	B
C-AB	5.95	0.40	6.903	A

#### 08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.66	0.04	7.529	A
B-A	0.67	0.04	15.734	C
C-AB	9.26	0.62	7.492	A

#### 08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.88	0.06	8.285	A
B-A	1.02	0.07	19.813	C
C-AB	16.72	1.11	8.744	A

#### 08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.91	0.06	8.294	A
B-A	1.08	0.07	19.857	C
C-AB	17.21	1.15	8.821	A

#### 09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.70	0.05	7.541	A
B-A	0.75	0.05	15.771	C
C-AB	9.74	0.65	7.571	A

#### 09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.55	0.04	7.077	A
B-A	0.54	0.04	13.710	B
C-AB	6.29	0.42	6.963	A

# 2030 Without devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.86	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2030 Without devt	PM	ONE HOUR	17:00	18:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	444	100.000
B - New Road- W		ONE HOUR	✓	132	100.000
C - Port Road- S		ONE HOUR	✓	381	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	52	392
	B - New Road- W	68	0	64
	C - Port Road- S	354	27	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.14	9.01	0.2	A	59	88	12.18	8.29	0.14	12.18	8.29
B-A	0.21	14.18	0.3	B	62	94	19.35	12.41	0.22	19.35	12.41
C-AB	0.07	5.15	0.1	A	42	63	7.83	7.48	0.09	7.83	7.48

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	563	0.086	48	0.0	0.1	7.675	A
B-A	51	13	413	0.124	51	0.0	0.2	10.893	B
C-AB	30	8	800	0.038	30	0.0	0.1	5.146	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	14	542	0.106	57	0.1	0.1	8.178	A
B-A	61	15	389	0.157	61	0.2	0.2	12.073	B
C-AB	40	10	818	0.049	40	0.1	0.1	5.085	A

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	510	0.138	70	0.1	0.2	8.992	A
B-A	75	19	354	0.211	75	0.2	0.3	14.149	B
C-AB	55	14	846	0.065	55	0.1	0.1	5.007	A

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	510	0.138	70	0.2	0.2	9.006	A
B-A	75	19	354	0.211	75	0.3	0.3	14.182	B
C-AB	55	14	846	0.065	55	0.1	0.1	5.007	A

#### 18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	14	541	0.106	58	0.2	0.1	8.198	A
B-A	61	15	389	0.157	61	0.3	0.2	12.107	B
C-AB	40	10	819	0.049	40	0.1	0.1	5.088	A

#### 18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	562	0.086	48	0.1	0.1	7.709	A
B-A	51	13	414	0.124	51	0.2	0.2	10.938	B
C-AB	31	8	800	0.038	31	0.1	0.1	5.152	A



### Queueing Delay Results for each time segment

#### 17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.48	0.10	7.675	A
B-A	2.19	0.15	10.893	B
C-AB	0.86	0.06	5.146	A

#### 17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.90	0.13	8.178	A
B-A	2.94	0.20	12.073	B
C-AB	1.21	0.08	5.085	A

#### 17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.55	0.17	8.992	A
B-A	4.18	0.28	14.149	B
C-AB	1.82	0.12	5.007	A

#### 17:45 - 18:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.62	0.17	9.006	A
B-A	4.37	0.29	14.182	B
C-AB	1.83	0.12	5.007	A

#### 18:00 - 18:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.03	0.14	8.198	A
B-A	3.24	0.22	12.107	B
C-AB	1.23	0.08	5.088	A

#### 18:15 - 18:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.60	0.11	7.709	A
B-A	2.43	0.16	10.938	B
C-AB	0.89	0.06	5.152	A

# 2030 With devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.91	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2030 With devt	PM	ONE HOUR	17:00	18:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	474	100.000
B - New Road- W		ONE HOUR	✓	138	100.000
C - Port Road- S		ONE HOUR	✓	412	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	55	419
	B - New Road- W	74	0	64
	C - Port Road- S	385	27	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.14	9.42	0.2	A	59	88	12.63	8.60	0.14	12.63	8.60
B-A	0.24	15.02	0.3	C	68	102	21.95	12.93	0.24	21.95	12.93
C-AB	0.07	5.09	0.1	A	44	66	8.22	7.46	0.09	8.22	7.46

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	548	0.088	48	0.0	0.1	7.902	A
B-A	56	14	410	0.136	55	0.0	0.2	11.148	B
C-AB	32	8	809	0.039	31	0.0	0.1	5.088	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	14	525	0.110	57	0.1	0.1	8.460	A
B-A	67	17	383	0.174	66	0.2	0.2	12.507	B
C-AB	42	10	831	0.050	42	0.1	0.1	5.019	A

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	491	0.143	70	0.1	0.2	9.399	A
B-A	81	20	345	0.236	81	0.2	0.3	14.978	B
C-AB	59	15	862	0.068	58	0.1	0.1	4.928	A

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	491	0.144	70	0.2	0.2	9.416	A
B-A	81	20	345	0.236	81	0.3	0.3	15.019	C
C-AB	59	15	862	0.068	59	0.1	0.1	4.930	A

#### 18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	14	525	0.110	58	0.2	0.1	8.483	A
B-A	67	17	383	0.174	67	0.3	0.2	12.550	B
C-AB	42	10	831	0.050	42	0.1	0.1	5.022	A

#### 18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	548	0.088	48	0.1	0.1	7.933	A
B-A	56	14	410	0.136	56	0.2	0.2	11.200	B
C-AB	32	8	810	0.039	32	0.1	0.1	5.094	A

### Queueing Delay Results for each time segment

#### 17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.52	0.10	7.902	A
B-A	2.44	0.16	11.148	B
C-AB	0.89	0.06	5.088	A

#### 17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.96	0.13	8.460	A
B-A	3.31	0.22	12.507	B
C-AB	1.26	0.08	5.019	A

#### 17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.66	0.18	9.399	A
B-A	4.79	0.32	14.978	B
C-AB	1.92	0.13	4.928	A

#### 17:45 - 18:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.74	0.18	9.416	A
B-A	5.03	0.34	15.019	C
C-AB	1.94	0.13	4.930	A

#### 18:00 - 18:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.11	0.14	8.483	A
B-A	3.66	0.24	12.550	B
C-AB	1.28	0.09	5.022	A

#### 18:15 - 18:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.64	0.11	7.933	A
B-A	2.72	0.18	11.200	B
C-AB	0.92	0.06	5.094	A

# 2040 Without devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.72	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2040 Without devt	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	861	100.000
B - New Road- W		ONE HOUR	✓	33	100.000
C - Port Road- S		ONE HOUR	✓	451	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	299	562
	B - New Road- W	11	0	22
	C - Port Road- S	328	123	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.05	8.09	0.1	A	20	30	3.79	7.51	0.04	3.79	7.51
B-A	0.05	18.90	0.1	C	10	15	4.01	15.90	0.04	4.01	15.90
C-AB	0.37	8.78	1.1	A	201	302	61.79	12.29	0.69	61.79	12.29

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	574	0.029	16	0.0	0.0	7.095	A
B-A	8	2	304	0.027	8	0.0	0.0	13.367	B
C-AB	142	35	711	0.199	140	0.0	0.4	6.928	A

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	555	0.036	20	0.0	0.0	7.396	A
B-A	10	2	270	0.037	10	0.0	0.0	15.239	C
C-AB	189	47	716	0.264	188	0.4	0.6	7.510	A

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	514	0.047	24	0.0	0.1	8.085	A
B-A	12	3	222	0.055	12	0.0	0.1	18.861	C
C-AB	271	68	725	0.374	270	0.6	1.0	8.712	A

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	514	0.047	24	0.1	0.1	8.093	A
B-A	12	3	222	0.055	12	0.1	0.1	18.896	C
C-AB	272	68	726	0.375	272	1.0	1.1	8.779	A

#### 09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	554	0.036	20	0.1	0.0	7.409	A
B-A	10	2	269	0.037	10	0.1	0.0	15.267	C
C-AB	190	47	717	0.264	191	1.1	0.6	7.580	A

#### 09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	584	0.028	17	0.0	0.0	6.979	A
B-A	8	2	304	0.027	8	0.0	0.0	13.389	B
C-AB	143	36	712	0.200	143	0.6	0.4	6.986	A

### Queueing Delay Results for each time segment

#### 08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.47	0.03	7.095	A
B-A	0.43	0.03	13.367	B
C-AB	5.77	0.38	6.928	A

#### 08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.59	0.04	7.396	A
B-A	0.60	0.04	15.239	C
C-AB	8.87	0.59	7.510	A

#### 08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.79	0.05	8.085	A
B-A	0.89	0.06	18.861	C
C-AB	15.67	1.04	8.712	A

#### 08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.81	0.05	8.093	A
B-A	0.94	0.06	18.896	C
C-AB	16.09	1.07	8.779	A

#### 09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.63	0.04	7.409	A
B-A	0.67	0.04	15.267	C
C-AB	9.30	0.62	7.580	A

#### 09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.50	0.03	6.979	A
B-A	0.48	0.03	13.389	B
C-AB	6.09	0.41	6.986	A

# 2040 With devt, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.76	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2040 With devt	AM	ONE HOUR	08:00	09:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	913	100.000
B - New Road- W		ONE HOUR	✓	34	100.000
C - Port Road- S		ONE HOUR	✓	476	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	317	596
	B - New Road- W	12	0	22
	C - Port Road- S	353	123	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10



## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.05	8.42	0.1	A	20	30	3.91	7.75	0.04	3.91	7.75
B-A	0.06	20.08	0.1	C	11	17	4.57	16.59	0.05	4.57	16.59
C-AB	0.40	9.00	1.2	A	212	319	68.67	12.93	0.76	68.67	12.93

### Main Results for each time segment

#### 08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	570	0.029	16	0.0	0.0	7.155	A
B-A	9	2	299	0.030	9	0.0	0.0	13.661	B
C-AB	147	37	715	0.206	146	0.0	0.4	6.945	A

#### 08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	538	0.037	20	0.0	0.0	7.637	A
B-A	11	3	262	0.041	11	0.0	0.0	15.775	C
C-AB	198	50	722	0.275	197	0.4	0.6	7.567	A

#### 08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	495	0.049	24	0.0	0.1	8.415	A
B-A	13	3	211	0.063	13	0.0	0.1	20.032	C
C-AB	290	73	734	0.396	288	0.6	1.2	8.919	A

#### 08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	6	494	0.049	24	0.1	0.1	8.424	A
B-A	13	3	210	0.063	13	0.1	0.1	20.080	C
C-AB	291	73	735	0.396	291	1.2	1.2	9.003	A

#### 09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5	537	0.037	20	0.1	0.0	7.653	A
B-A	11	3	261	0.041	11	0.1	0.0	15.813	C
C-AB	199	50	723	0.276	202	1.2	0.7	7.654	A

#### 09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	4	569	0.029	17	0.0	0.0	7.173	A
B-A	9	2	298	0.030	9	0.0	0.0	13.687	B
C-AB	148	37	716	0.207	149	0.7	0.4	7.013	A

### Queueing Delay Results for each time segment

#### 08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.47	0.03	7.155	A
B-A	0.48	0.03	13.661	B
C-AB	6.17	0.41	6.945	A

#### 08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.61	0.04	7.637	A
B-A	0.67	0.04	15.775	C
C-AB	9.68	0.65	7.567	A

#### 08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.82	0.05	8.415	A
B-A	1.03	0.07	20.032	C
C-AB	17.75	1.18	8.919	A

#### 08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.84	0.06	8.424	A
B-A	1.09	0.07	20.080	C
C-AB	18.31	1.22	9.003	A

#### 09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.65	0.04	7.653	A
B-A	0.75	0.05	15.813	C
C-AB	10.22	0.68	7.654	A

#### 09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.51	0.03	7.173	A
B-A	0.54	0.04	13.687	B
C-AB	6.54	0.44	7.013	A

# 2040 Without devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.87	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2040 Without devt	PM	ONE HOUR	17:00	18:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	452	100.000
B - New Road- W		ONE HOUR	✓	134	100.000
C - Port Road- S		ONE HOUR	✓	388	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	53	399
	B - New Road- W	69	0	65
	C - Port Road- S	361	27	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.14	9.09	0.2	A	60	89	12.45	8.35	0.14	12.46	8.35
B-A	0.22	14.41	0.3	B	63	95	19.88	12.56	0.22	19.89	12.56
C-AB	0.07	5.14	0.1	A	42	64	7.92	7.48	0.09	7.92	7.48

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	561	0.087	49	0.0	0.1	7.717	A
B-A	52	13	411	0.126	51	0.0	0.2	10.986	B
C-AB	31	8	802	0.038	31	0.0	0.1	5.135	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	539	0.108	58	0.1	0.1	8.231	A
B-A	62	16	386	0.161	62	0.2	0.2	12.209	B
C-AB	40	10	821	0.049	40	0.1	0.1	5.071	A

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	18	507	0.141	71	0.1	0.2	9.076	A
B-A	76	19	351	0.217	76	0.2	0.3	14.379	B
C-AB	56	14	850	0.066	56	0.1	0.1	4.991	A

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	18	507	0.141	72	0.2	0.2	9.091	A
B-A	76	19	351	0.217	76	0.3	0.3	14.413	B
C-AB	56	14	850	0.066	56	0.1	0.1	4.991	A

#### 18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	539	0.108	59	0.2	0.1	8.250	A
B-A	62	16	386	0.161	62	0.3	0.2	12.246	B
C-AB	40	10	821	0.049	40	0.1	0.1	5.076	A

#### 18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	560	0.087	49	0.1	0.1	7.747	A
B-A	52	13	411	0.126	52	0.2	0.2	11.029	B
C-AB	31	8	802	0.038	31	0.1	0.1	5.141	A

### Queueing Delay Results for each time segment

#### 17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.51	0.10	7.717	A
B-A	2.24	0.15	10.986	B
C-AB	0.87	0.06	5.135	A

#### 17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.94	0.13	8.231	A
B-A	3.02	0.20	12.209	B
C-AB	1.22	0.08	5.071	A

#### 17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.61	0.17	9.076	A
B-A	4.30	0.29	14.379	B
C-AB	1.84	0.12	4.991	A

#### 17:45 - 18:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.69	0.18	9.091	A
B-A	4.50	0.30	14.413	B
C-AB	1.86	0.12	4.991	A

#### 18:00 - 18:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.08	0.14	8.250	A
B-A	3.33	0.22	12.246	B
C-AB	1.24	0.08	5.076	A

#### 18:15 - 18:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.63	0.11	7.747	A
B-A	2.49	0.17	11.029	B
C-AB	0.90	0.06	5.141	A

# 2040 With devt, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	J2 Port Road/ New Road Jn	T-Junction	Two-way		1.93	A

### Junction Network Options

Driving side	Lighting
Left	Normal/unknown

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2040 With devt	PM	ONE HOUR	17:00	18:30	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	✓	HV Percentages	2.00

### Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - Port Road- N		ONE HOUR	✓	483	100.000
B - New Road- W		ONE HOUR	✓	140	100.000
C - Port Road- S		ONE HOUR	✓	419	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	0	56	427
	B - New Road- W	75	0	65
	C - Port Road- S	392	27	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To		
		A - Port Road- N	B - New Road- W	C - Port Road- S
From	A - Port Road- N	10	10	10
	B - New Road- W	10	10	10
	C - Port Road- S	10	10	10

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.15	9.52	0.2	A	60	89	12.93	8.67	0.14	12.93	8.67
B-A	0.24	15.30	0.3	C	69	103	22.56	13.11	0.25	22.57	13.12
C-AB	0.07	5.08	0.1	A	45	67	8.32	7.47	0.09	8.32	7.47

### Main Results for each time segment

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	547	0.090	49	0.0	0.1	7.943	A
B-A	56	14	407	0.139	56	0.0	0.2	11.248	B
C-AB	32	8	811	0.039	32	0.0	0.1	5.078	A

#### 17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	523	0.112	58	0.1	0.1	8.519	A
B-A	67	17	380	0.178	67	0.2	0.2	12.674	B
C-AB	42	11	833	0.051	42	0.1	0.1	5.007	A

#### 17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	18	488	0.147	71	0.1	0.2	9.498	A
B-A	83	21	341	0.242	82	0.2	0.3	15.256	C
C-AB	59	15	866	0.069	59	0.1	0.1	4.912	A

#### 17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	18	488	0.147	72	0.2	0.2	9.516	A
B-A	83	21	341	0.242	83	0.3	0.3	15.301	C
C-AB	60	15	866	0.069	60	0.1	0.1	4.914	A

#### 18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15	522	0.112	59	0.2	0.1	8.544	A
B-A	67	17	380	0.178	68	0.3	0.2	12.711	B
C-AB	42	11	833	0.051	42	0.1	0.1	5.010	A

#### 18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	546	0.090	49	0.1	0.1	7.974	A
B-A	56	14	407	0.139	57	0.2	0.2	11.305	B
C-AB	32	8	811	0.040	32	0.1	0.1	5.082	A

### Queueing Delay Results for each time segment

#### 17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.55	0.10	7.943	A
B-A	2.50	0.17	11.248	B
C-AB	0.90	0.06	5.078	A

#### 17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.01	0.13	8.519	A
B-A	3.39	0.23	12.674	B
C-AB	1.27	0.08	5.007	A

#### 17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.72	0.18	9.498	A
B-A	4.94	0.33	15.256	C
C-AB	1.95	0.13	4.912	A

#### 17:45 - 18:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.81	0.19	9.516	A
B-A	5.19	0.35	15.301	C
C-AB	1.97	0.13	4.914	A

#### 18:00 - 18:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.16	0.14	8.544	A
B-A	3.76	0.25	12.711	B
C-AB	1.30	0.09	5.010	A

#### 18:15 - 18:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.68	0.11	7.974	A
B-A	2.78	0.19	11.305	B
C-AB	0.93	0.06	5.082	A



**APPENDIX B – TRICS**

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**Residential Housing** **Page 1**  
 MHL & Associates Ltd 10 High Street Cork Licence No: 761701

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

**VEHICLES**

**Calculation factor: 1 DWELLS**

**Estimated TRIP rate value per 120 DWELLS shown in shaded columns**

**BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	17	57	0.052	6.243	17	57	0.187	22.477	17	57	0.239	28.720
08:00 - 09:00	17	57	0.196	23.476	<b>17</b>	<b>57</b>	<b>0.453</b>	<b>54.318</b>	17	57	0.649	77.794
09:00 - 10:00	17	57	0.220	26.348	17	57	0.279	33.465	17	57	0.499	59.813
10:00 - 11:00	17	57	0.175	20.978	17	57	0.194	23.226	17	57	0.369	44.204
11:00 - 12:00	17	57	0.171	20.479	17	57	0.198	23.725	17	57	0.369	44.204
12:00 - 13:00	17	57	0.235	28.221	17	57	0.224	26.847	17	57	0.459	55.068
13:00 - 14:00	17	57	0.271	32.466	17	57	0.311	37.336	17	57	0.582	69.802
14:00 - 15:00	17	57	0.288	34.589	17	57	0.302	36.212	17	57	0.590	70.801
15:00 - 16:00	17	57	0.302	36.212	17	57	0.224	26.847	17	57	0.526	63.059
16:00 - 17:00	17	57	0.379	45.453	17	57	0.262	31.467	17	57	0.641	76.920
17:00 - 18:00	<b>17</b>	<b>57</b>	<b>0.425</b>	<b>50.947</b>	17	57	0.302	36.212	<b>17</b>	<b>57</b>	<b>0.727</b>	<b>87.159</b>
18:00 - 19:00	17	57	0.395	47.451	17	57	0.261	31.342	17	57	0.656	78.793
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
<b>Total Rates:</b>			3.109	372.863			3.197	383.474			6.306	756.337

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**Creche** **Page 1**  
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TRIP RATE for Land Use 04 - EDUCATION/D - NURSERY

**VEHICLES**

**Calculation factor: 100 sqm**

**Estimated TRIP rate value per 283 SQM shown in shaded columns**

**BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated 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	2	350	1.571	4.447	2	350	1.000	2.830	2	350	2.571	7.277
08:00 - 09:00	<b>2</b>	<b>350</b>	<b>7.714</b>	<b>21.831</b>	2	350	4.429	12.533	<b>2</b>	<b>350</b>	<b>12.143</b>	<b>34.364</b>
09:00 - 10:00	2	350	4.000	11.320	2	350	4.714	13.341	2	350	8.714	24.661
10:00 - 11:00	2	350	0.429	1.213	2	350	0.857	2.426	2	350	1.286	3.639
11:00 - 12:00	2	350	1.000	2.830	2	350	0.429	1.213	2	350	1.429	4.043
12:00 - 13:00	2	350	3.286	9.299	2	350	4.143	11.724	2	350	7.429	21.023
13:00 - 14:00	2	350	2.571	7.277	2	350	2.286	6.469	2	350	4.857	13.746
14:00 - 15:00	2	350	2.857	8.086	2	350	1.714	4.851	2	350	4.571	12.937
15:00 - 16:00	2	350	1.143	3.234	2	350	2.429	6.873	2	350	3.572	10.107
16:00 - 17:00	2	350	2.143	6.064	2	350	2.286	6.469	2	350	4.429	12.533
17:00 - 18:00	2	350	4.429	12.533	<b>2</b>	<b>350</b>	<b>6.429</b>	<b>18.193</b>	2	350	10.858	30.726
18:00 - 19:00	1	500	0.000	0.000	1	500	0.600	1.698	1	500	0.600	1.698
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
<b>Total Rates:</b>			31.143	88.134			31.316	88.620			62.459	176.754

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

**VEHICLES**

**Calculation factor: 1 DWELLS**

**Estimated TRIP rate value per 86 DWELLS shown in shaded columns**

**BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	39	0.042	3.588	19	39	0.109	9.376	19	39	0.151	12.964
08:00 - 09:00	19	39	0.059	5.093	<b>19</b>	<b>39</b>	<b>0.163</b>	<b>14.005</b>	19	39	0.222	19.098
09:00 - 10:00	19	39	0.074	6.366	19	39	0.108	9.260	19	39	0.182	15.626
10:00 - 11:00	19	39	0.066	5.672	19	39	0.082	7.061	19	39	0.148	12.733
11:00 - 12:00	19	39	0.089	7.639	19	39	0.097	8.334	19	39	0.186	15.973
12:00 - 13:00	19	39	0.104	8.913	19	39	0.077	6.598	19	39	0.181	15.511
13:00 - 14:00	19	39	0.081	6.945	19	39	0.097	8.334	19	39	0.178	15.279
14:00 - 15:00	19	39	0.098	8.450	19	39	0.101	8.681	19	39	0.199	17.131
15:00 - 16:00	19	39	0.089	7.639	19	39	0.081	6.945	19	39	0.170	14.584
16:00 - 17:00	19	39	0.102	8.797	19	39	0.087	7.524	19	39	0.189	16.321
17:00 - 18:00	<b>19</b>	<b>39</b>	<b>0.206</b>	<b>17.709</b>	19	39	0.109	9.376	<b>19</b>	<b>39</b>	<b>0.315</b>	<b>27.085</b>
18:00 - 19:00	19	39	0.145	12.501	19	39	0.112	9.607	19	39	0.257	22.108
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
<b>Total Rates:</b>			1.155	99.312			1.223	105.101			2.378	204.413

## **APPENDIX C – TRAFFIC SURVEYS**

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## Junction Turning Count

**Project Number:** 3748-IRE  
**Project Name:** Killarney  
**Client:** MHL & Associates Limited

**Sites:** 1-3  
**Survey Date:** 19/01/2023

**Survey Time:** 07:00-19:00

**Weather:** Wet

**Observations:** No incidents or observations during the survey period.

 [Dashboard](#)

 [3-Star Data \(CSV Export\)](#)

 [Contact Us](#)

*Tracsis will retain all personal data relating to this project, including all video images, for a period of three months after receipt of this report and all other data files for one year.*

*If you would like a copy of the personal data or wish for us to retain for a longer period, please do not hesitate to contact us.*

Origin : Arm A N72 Dr.Hans Liebherr Road

	Destination : Arm A N72 Dr.Hans Liebherr Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	1	0	0	0	0	0	0	1
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
1 Hr	1	0	0	0	0	0	0	1
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
16:00	2	0	0	0	0	0	0	2
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
1 Hr	2	0	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	1	0	0	0	0	0	0	1
17:45	0	0	0	0	0	0	0	0
1 Hr	1	0	0	0	0	0	0	1
18:00	0	0	0	0	0	0	0	0
18:15	1	0	0	0	0	0	0	1
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0

	Destination : Arm B Saint.Margaret's Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	1	0	0	0	0	0	0	1
7:15	0	0	0	0	0	0	0	0
7:30	1	0	0	0	0	0	0	1
7:45	0	0	0	0	0	0	0	0
1 Hr	2	0	0	0	0	0	0	2
8:00	0	0	0	0	0	0	0	0
8:15	2	0	0	0	0	0	0	2
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
1 Hr	2	0	0	0	0	0	0	2
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	2	1	0	0	0	0	0	3
9:45	1	0	0	0	0	0	0	1
1 Hr	3	1	0	0	0	0	0	4
10:00	0	0	0	0	0	0	0	0
10:15	2	0	0	0	0	0	0	2
10:30	2	0	0	0	0	0	0	2
10:45	5	0	0	0	0	0	0	5
1 Hr	9	0	0	0	0	0	0	9
11:00	0	1	0	0	0	0	0	1
11:15	1	0	0	0	0	0	0	1
11:30	2	0	0	0	0	0	0	2
11:45	3	0	0	0	0	0	0	3
1 Hr	6	1	0	0	0	0	0	7
12:00	0	0	0	0	0	0	0	0
12:15	2	0	0	0	0	0	0	2
12:30	2	0	0	0	0	0	0	2
12:45	2	1	0	0	0	0	0	3
1 Hr	6	1	0	0	0	0	0	7
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	1	0	0	1
13:30	3	0	0	0	0	0	0	3
13:45	2	1	0	0	0	0	0	3
1 Hr	5	1	0	0	1	0	0	7
14:00	3	0	0	0	0	0	0	3
14:15	8	1	0	0	0	0	0	9
14:30	4	0	0	0	0	0	0	4
14:45	0	0	0	0	0	0	0	0
1 Hr	15	1	0	0	0	0	0	16
15:00	1	0	0	0	0	0	0	1
15:15	1	0	0	0	0	0	0	1
15:30	3	0	0	0	0	0	0	3
15:45	0	0	0	0	0	0	0	0
1 Hr	5	0	0	0	0	0	0	5
16:00	3	0	0	0	0	0	0	3
16:15	1	0	0	0	0	0	0	1
16:30	0	0	1	0	0	0	0	1
16:45	1	0	0	0	0	0	0	1
1 Hr	5	0	1	0	0	0	0	6
17:00	1	0	0	0	0	0	0	1
17:15	2	0	0	0	0	0	0	2
17:30	1	1	0	0	0	0	0	2
17:45	2	0	0	0	0	0	0	2
1 Hr	6	1	0	0	0	0	0	7
18:00	1	0	0	0	0	0	0	1
18:15	2	0	0	0	0	0	0	2
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0

	Destination : Arm C R877 Port Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	4	2	0	0	0	0	0	6
7:15	13	0	0	0	1	0	0	14
7:30	13	4	1	0	0	0	0	18
7:45	30	13	1	0	0	0	0	44
1 Hr	60	19	2	0	1	0	0	82
8:00	46	3	0	1	2	0	0	52
8:15	117	5	1	0	6	0	0	129
8:30	72	4	1	1	1	0	0	79
8:45	75	8	1	0	1	0	0	85
1 Hr	310	20	3	2	10	0	0	345
9:00	80	7	0	2	0	0	0	89
9:15	46	6	3	2	0	0	0	57
9:30	33	5	2	0	0	0	0	40
9:45	46	4	1	0	0	0	0	51
1 Hr	205	22	6	4	0	0	0	237
10:00	44	4	4	0	1	0	0	53
10:15	41	7	1	0	1	0	0	50
10:30	27	6	1	0	0	0	0	34
10:45	50	3	0	0	1	1	0	55
1 Hr	162	20	6	0	3	1	0	192
11:00	31	6	0	0	0	0	0	37
11:15	47	4	0	2	0	0	0	53
11:30	37	5	1	1	0	0	0	44
11:45	35	5	1	0	0	0	0	41
1 Hr	150	20	2	3	0	0	0	175
12:00	31	2	0	0	1	0	0	34
12:15	31	5	2	1	0	0	0	39
12:30	35	4	0	0	0	0	0	39
12:45	38	3	0	0	1	0	0	42
1 Hr	135	14	2	1	2	0	0	154
13:00	42	2	1	0	2	0	0	47
13:15	33	3	1	0	0	0	0	37
13:30	49	2	0	2	1	0	0	54
13:45	46	6	1	0	0	0	0	53
1 Hr	170	13	3	2	3	0	0	191
14:00	46	7	3	0	0	0	0	56
14:15	47	2	0	0	0	0	0	49
14:30	42	2	1	0	2	0	0	47
14:45	46	1	2	2	2	0	0	53
1 Hr	181	12	6	2	4	0	0	205
15:00	43	2	0	1	1	0	0	47
15:15	72	4	0	3	0	0	0	79
15:30	97	5	0	0	3	0	0	105
15:45	61	3	0	0	0	1	0	65
1 Hr	273	14	0	4	4	1	0	296
16:00	57	4	0	0	0	0	0	61
16:15	46	1	0	0	0	1	0	48
16:30	28	1	0	0	0	0	0	29
16:45	40	2	1	0	0	0	0	43
1 Hr	171	8	1	0	0	1	0	181
17:00	39	2	1	0	0	0	0	42
17:15	42	6	0	0	0	0	0	48
17:30	46	2	0	0	0	0	0	48
17:45	55	7	0	0	0	0	0	62
1 Hr	182	17	1	0	0	0	0	200
18:00	32	3	0	1	0	0	0	36
18:15	44	0	0	0	0	0	0	44
18:30	31	1	0	0	1	0	0	33
18:45	54	0	0	0	0	0	0	54

	Destination : Arm D N72 Rong of Kerry							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	40	7	0	0	1	0	0	48
7:15	48	5	2	0	0	0	0	55
7:30	40	8	3	2	0	0	0	53
7:45	47	10	2	0	1	0		









**Site J1 - N72 Dr.Hans Liebherr Road / Saint.Margaret's Road / R877 Port Road / N72 Rong of Kerry**

16:30	43	5	2	1	1	0	0	52	30	3	1	0	0	0	0	34	55	8	0	0	0	0	0	63	0	0	0	0	0	0	0	0	149
16:45	50	12	0	0	0	0	0	62	56	3	0	0	0	0	0	59	52	7	0	0	1	0	0	60	0	0	0	0	0	0	0	0	181
1 Hr	190	35	9	3	1	0	0	238	171	19	2	1	0	0	0	193	190	20	1	0	2	0	1	214	0	0	0	0	0	0	0	0	645
17:00	52	8	1	0	0	0	1	62	36	1	0	0	0	0	0	37	51	9	0	0	0	0	0	60	0	0	0	0	0	0	0	0	159
17:15	49	9	2	1	0	0	0	61	34	9	0	0	0	0	0	43	47	0	0	0	0	0	0	47	1	0	0	0	0	0	0	0	152
17:30	51	10	1	0	0	0	0	62	15	2	0	0	0	0	0	17	30	2	1	0	0	0	0	33	1	0	0	0	0	0	0	0	113
17:45	65	6	0	0	0	0	0	71	31	2	0	0	0	0	0	33	61	6	0	0	0	0	0	67	0	0	0	0	0	0	0	0	171
1 Hr	217	33	4	1	0	0	1	256	116	14	0	0	0	0	0	130	189	17	1	0	0	0	0	207	2	0	0	0	0	0	0	2	595
18:00	49	5	0	0	0	0	0	54	27	2	0	0	0	0	0	29	33	4	0	0	0	0	0	37	0	0	0	0	0	0	0	0	120
18:15	37	1	0	0	0	0	0	38	14	1	0	0	0	0	0	15	42	1	0	0	0	0	0	43	0	0	0	0	0	0	0	0	96
18:30	46	8	1	0	1	0	0	56	3	0	0	0	0	0	0	3	32	2	0	0	0	0	0	34	0	0	0	0	0	0	0	0	93
18:45	39	4	1	0	0	0	0	44	3	1	0	0	0	0	0	4	47	1	0	0	0	0	0	48	0	0	0	0	0	0	0	0	96
1 Hr	171	18	2	0	1	0	0	192	47	4	0	0	0	0	0	51	154	8	0	0	0	0	0	162	0	0	0	0	0	0	0	0	405
<b>Total</b>	<b>2623</b>	<b>400</b>	<b>87</b>	<b>57</b>	<b>24</b>	<b>0</b>	<b>2</b>	<b>3193</b>	<b>738</b>	<b>67</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>814</b>	<b>1957</b>	<b>185</b>	<b>20</b>	<b>5</b>	<b>22</b>	<b>2</b>	<b>5</b>	<b>2196</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>6219</b>

**ORIGIN SUMMARY**

	Origin : Arm A N72 Dr.Hans Liebherr Road							Total	Origin : Arm B Saint.Margaret's Road							Total	Origin : Arm C R877 Port Road							Total	Origin : Arm D N72 Rong of Kerry							Total	Origin Totals	
	Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC		Car	LGV	OGV1	OGV2	PSV	MC	PC			
7:00	45	9	0	0	1	0	0	55	0	0	0	0	0	0	0	0	0	14	1	0	0	0	0	0	0	30	12	1	0	2	0	1	46	116
7:15	61	5	2	0	1	0	0	69	4	1	0	0	0	0	0	0	0	13	2	1	2	1	1	0	0	73	15	1	0	0	0	0	89	183
7:30	54	12	4	2	0	0	0	72	9	0	0	0	0	0	0	1	5	25	7	1	0	0	0	0	0	89	13	1	0	0	0	1	104	219
7:45	77	23	3	0	1	0	1	105	4	0	1	0	0	0	0	0	5	27	5	0	1	0	0	0	0	124	31	0	0	2	0	0	157	300
1 Hr	237	49	9	2	3	0	1	301	17	1	1	0	0	0	1	20	79	15	2	3	1	1	0	0	33	316	71	3	0	4	0	2	396	818
8:00	96	12	3	1	2	0	0	114	13	0	0	0	0	0	0	13	52	6	1	1	3	0	0	0	63	83	13	1	1	1	0	0	99	289
8:15	164	15	4	2	6	0	0	191	16	2	0	0	2	0	0	20	45	3	2	1	0	0	0	0	51	166	15	1	2	1	0	0	185	447
8:30	105	10	1	3	4	0	0	123	37	6	0	0	1	0	1	45	92	6	2	0	0	0	0	0	100	215	15	5	2	3	0	0	240	508
8:45	128	21	4	3	1	0	0	157	49	5	0	0	1	0	0	55	75	11	1	0	2	0	0	0	89	227	16	3	1	1	0	1	249	550
1 Hr	493	58	12	9	13	0	0	585	115	13	0	0	4	0	1	133	264	26	6	2	5	0	0	0	303	691	59	10	6	6	0	1	773	1794
9:00	148	17	4	5	2	0	0	176	34	3	1	0	0	1	0	39	66	4	0	0	3	0	0	0	73	149	11	2	1	3	0	0	166	454
9:15	89	21	7	6	0	0	0	123	18	5	0	0	0	0	0	23	49	8	2	0	0	0	0	0	59	156	12	0	4	1	0	0	173	378
9:30	60	23	6	0	0	0	0	89	5	0	0	0	0	0	0	5	37	8	2	2	0	0	0	0	49	123	11	5	0	1	0	0	140	283
9:45	87	11	2	2	0	0	0	102	10	0	0	0	1	0	0	11	30	5	1	1	2	0	0	0	39	107	8	2	0	1	0	0	118	270
1 Hr	384	72	19	13	2	0	0	490	67	8	1	0	1	1	0	78	182	25	5	3	5	0	0	0	220	535	42	9	5	6	0	0	597	1385
10:00	82	13	4	0	1	0	0	100	8	3	0	0	0	0	0	11	30	9	0	1	0	0	1	41	85	11	3	1	0	0	1	101	253	
10:15	67	16	3	2	3	0	0	91	5	0	0	0	0	0	0	5	40	5	3	0	1	0	0	49	74	11	3	4	1	0	0	93	238	
10:30	61	10	3	1	0	0	0	75	10	1	1	0	0	0	0	12	46	6	1	0	2	0	0	55	94	10	0	0	0	0	0	104	246	
10:45	92	10	4	4	1	1	0	112	14	0	1	0	0	0	0	15	35	6	1	1	0	0	0	43	86	14	4	3	1	1	0	109	279	
1 Hr	302	49	14	7	5	1	0	378	37	4	2	0	0	0	0	43	151	26	5	2	3	0	1	188	339	46	10	8	2	2	0	407	1016	
11:00	77	14	3	1	1	1	0	97	6	0	0	0	0	0	0	6	43	11	1	0	0	1	0	56	77	14	4	2	2	0	0	99	258	
11:15	76	17	2	3	0	0	0	98	9	1	0	0	0	0	0	10	54	3	0	0	2	0	0	59	64	13	1	3	0	0	0	81	248	
11:30	71	19	4	1	0	1	0	96	5	1	0	0	0	0	0	6	56	6	2	0	2	0	0	66	78	12	3	2	1	0	0	96	264	
11:45	84	13	2	1	0	0	0	100	13	0	0	0	0	0	0	13	50	7	2	1	1	0	0	61	98	9	2	2	1	0	0	112	286	
1 Hr	308	63	11	6	1	2	0	391	33	2	0	0	0	0	0	35	203	27	5	1	5	1	0	242	317	48	10	9	4	0	0	388	1056	
12:00	66	11	0	1	2	0	0	80	13	0	0	0	0	0	0	13	72	6	1	1	1	0	0	81	91	7	3	1	0	0	1	103	277	
12:15	95	13	4	2	0	0	0	114	10	5	0	0	0	0	0	15	62	2	1	0	1	0	0	66	86	15	3	2	0	0	0	106	301	
12:30	91	14	2	1	0	0	0	108	10	0	1	0	0	0	0	11	61	5	0	0	1	0	0	67	77	10	1	5	1	0	1	95	281	
12:45	90	16	3	2	2	0	0	113	24	0	0	0	0	0	0	24	58	7	3	0	0	0	0	68	113	10	5	1	2	0	0	131	336	
1 Hr	342	54	9	6	4	0	0	415	57	5	1	0	0	0	0	63	253	20	5	1	3	0	0	282	367	42	12	9	3	0	2	435	1195	
13:00	86	12	2	2	3	0	0	105	22	0	0	0	1	0	0	23	56	7	2	1	0	0	0	66	112	10	4	2	1	0	0	129	323	
13:15	95	8	1	1	2	0	0	107	22	0	0	0	0	0	0	22	77	6	1	1	1	0	3	89	89	14	1	2	1	0	0	107	325	
13:30	103	5	2	4	1	0	0	115	9	0	0	0	0	0	0	9	57	4	1	1	0	0	1	64	70	11	2	4	1	0	0	88	276	
13:45	106	12	3	1	0	0	0	122	14	0	0	0	2	0	0	16	58	7	2	0	1	0	1	69	93	9	2	1	0	0	0	105	312	
1 Hr	390	37	8	8	6	0	0	449	67	0	0	0	3	0	0	70	248	24	6	3	2	0	5	288	364	44	9	9	3	0	0	429	1236	
14:00	102	15	4	4	2	0	0	127	10	1	0	0	0	0	0	11	64	4	0	2	0	0	0	70	99	17	8	1	1	0	0	126	334	
14:15	116	8	1	1	1	0	0																											

**Site J1 - N72 Dr.Hans Liebherr Road / Saint.Margaret's Road / R877 Port Road / N72 Rong of Kerry**

15:45	135	13	3	2	0	1	0	154
1 Hr	500	51	10	11	8	1	0	581
16:00	130	8	1	2	0	0	0	141
16:15	125	9	2	1	0	1	0	138
16:30	124	16	1	3	1	0	0	145
16:45	140	16	3	1	1	0	0	161
1 Hr	519	49	7	7	2	1	0	585
17:00	131	17	1	1	1	0	0	151
17:15	137	24	2	2	0	0	0	165
17:30	160	16	2	1	0	0	0	179
17:45	144	17	3	1	0	0	0	165
1 Hr	572	74	8	5	1	0	0	660
18:00	109	14	0	1	0	0	0	124
18:15	133	6	3	0	1	0	0	143
18:30	95	10	0	0	2	0	0	107
18:45	113	8	0	0	1	0	0	122
1 Hr	450	38	3	1	4	0	0	496

44	6	0	0	1	0	0	51
130	15	0	0	6	0	1	152
29	0	0	0	0	0	0	29
20	2	0	0	0	0	0	22
24	1	1	0	0	0	0	26
23	1	1	0	0	0	0	25
96	4	2	0	0	0	0	102
32	5	0	0	0	0	0	37
21	2	0	0	1	0	0	24
24	4	0	0	0	0	0	28
26	0	0	0	0	0	0	26
103	11	0	0	1	0	0	115
24	3	0	0	0	0	0	27
26	1	0	0	0	0	0	27
9	0	0	0	0	0	0	9
18	0	0	0	0	0	0	18
77	4	0	0	0	0	0	81

126	12	1	1	1	0	0	141
343	19	5	1	4	0	0	372
76	11	1	0	3	0	0	91
69	8	3	0	0	0	0	80
97	9	2	1	1	0	0	110
84	21	0	0	0	1	0	106
326	49	6	1	4	1	0	387
90	16	0	1	0	0	0	107
81	15	0	1	0	0	0	97
99	4	0	0	0	0	0	103
75	8	1	1	0	0	0	85
345	43	1	3	0	0	0	392
112	5	1	0	0	0	0	118
107	10	0	0	0	0	0	117
66	4	0	0	0	0	0	70
91	4	1	0	1	0	0	97
376	23	2	0	1	0	0	402

109	16	3	2	4	0	0	134
577	82	11	4	9	0	0	683
161	13	6	1	0	0	1	182
104	23	3	2	1	0	0	133
128	16	3	1	1	0	0	149
158	22	0	0	1	0	0	181
551	74	12	4	3	0	1	645
139	18	1	0	0	0	1	159
131	18	2	1	0	0	0	152
97	14	2	0	0	0	0	113
157	14	0	0	0	0	0	171
524	64	5	1	0	0	1	595
109	11	0	0	0	0	0	120
93	3	0	0	0	0	0	96
81	10	1	0	1	0	0	93
89	6	1	0	0	0	0	96
372	30	2	0	1	0	0	405

480
1788
443
373
430
473
1719
454
438
423
447
1762
389
383
279
333
1384

Total	4972	640	119	88	56	5	1	5881
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873	69	7	0	18	1	3	971
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3070	327	51	25	36	4	6	3519
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5333	653	111	63	49	2	8	6219
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16590
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**DESTINATION SUMMARY**

Destination : Arm A N72 Dr.Hans Liebherr Road								Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	

7:00	32	10	1	0	1	0	0	44
7:15	62	11	2	2	1	1	0	79
7:30	67	9	1	0	0	0	1	78
7:45	82	15	0	1	1	0	0	99
1 Hr	243	45	4	3	3	1	1	300
8:00	64	6	1	2	1	0	0	74
8:15	102	8	0	3	1	0	0	114
8:30	139	13	4	1	1	0	0	158
8:45	121	19	2	1	2	0	0	145
1 Hr	426	46	7	7	5	0	0	491
9:00	100	8	2	1	3	0	0	114
9:15	109	10	1	4	1	0	0	125
9:30	86	11	4	1	1	0	0	103
9:45	83	9	2	1	3	0	0	98
1 Hr	378	38	9	7	8	0	0	440
10:00	71	10	3	2	0	0	0	86
10:15	56	8	3	4	0	0	0	71
10:30	69	12	0	0	1	0	0	82
10:45	61	15	4	3	1	0	0	84
1 Hr	257	45	10	9	2	0	0	323
11:00	62	14	3	2	0	1	0	82
11:15	60	11	1	3	0	0	0	75
11:30	72	11	4	1	2	0	0	90
11:45	88	9	3	3	2	0	0	105
1 Hr	282	45	11	9	4	1	0	352
12:00	88	7	1	2	1	0	0	99
12:15	71	13	3	2	1	0	0	90
12:30	80	13	1	5	0	0	0	99
12:45	90	13	6	1	1	0	0	111
1 Hr	329	46	11	10	3	0	0	399
13:00	84	12	5	3	1	0	0	105
13:15	83	9	0	3	0	0	1	96
13:30	58	12	2	3	1	0	0	76
13:45	74	8	4	0	0	0	0	86
1 Hr	299	41	11	9	2	0	1	363
14:00	77	10	7	2	0	0	0	96
14:15	72	12	5	5	1	0	0	95
14:30	82	13	4	2	1	0	0	102
14:45	88	13	1	2	4	0	0	108

Destination : Arm B Saint.Margaret's Road								Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	

1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	2
11	2	1	0	0	0	0	0	14
12	1	0	0	0	0	0	0	13
26	3	1	0	0	0	0	0	30
12	0	0	0	0	0	0	0	12
18	1	0	0	0	0	0	0	19
31	0	2	0	0	0	0	0	33
51	0	1	0	0	0	0	1	53
112	1	3	0	0	0	0	1	117
25	1	0	0	0	0	0	0	26
17	1	0	0	0	0	0	0	18
13	2	0	0	0	0	0	0	15
13	0	0	0	0	0	0	0	13
68	4	0	0	0	0	0	0	72
4	2	0	0	0	0	0	0	6
8	1	0	0	0	0	0	0	9
9	0	0	0	0	0	0	0	9
12	2	0	0	0	0	0	0	14
33	5	0	0	0	0	0	0	38
6	2	0	0	2	0	0	0	10
5	0	0	0	0	0	0	0	5
16	0	0	0	0	0	0	0	16
12	1	0	0	0	0	0	0	13
39	3	0	0	2	0	0	0	44
8	1	0	0	0	0	0	0	9
9	0	1	0	0	0	0	0	10
10	0	0	0	0	0	0	0	10
17	2	0	0	0	0	0	0	19
44	3	1	0	0	0	0	0	48
13	0	0	0	0	0	0	0	13
12	1	1	0	1	0	0	0	15
9	0	0	0	0	0	0	0	9
10	2	0	0	0	0	0	0	12
44	3	1	0	1	0	0	0	49
12	1	0	0	0	0	0	0	13
19	2	0	0	0	0	0	0	21
15	0	0	0	0	0	0	0	15
17	2	0	0	0	0	0	0	19

Destination : Arm C R877 Port Road								Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	

7	4	0	0	1	0	1	13
28	4	0	0	1	0	0	33
37	9	1	0	0	0	0	47
70	30	1	0	1	0	0	102
142	47	2	0	3	0	1	195
80	10	0	1	3	0	0	94
192	14	3	0	8	0	0	217
176	12	2	2	3	0	0	195
189	15	1	0	1	0	0	206
637	51	6	3	15	0	0	712
146	13	1	2	1	1	0	164
110	11	3	2	0	0	0	126
78	8	4	0	0	0	0	90
85	5	1	0	1	0	0	92
419	37	9	4	2	1	0	472
76	11	4	0	1	1	0	93
74	11	2	0	2	0	0	89
77	7	1	0	0	0	0	85
92	5	0	0	1	2	0	100
319	34	7	0	4	3	0	367
65	10	2	0	0	0	0	77
78	7	0	2	0	0	0	87
62	9	1	2	0	0	0	74
65	6	2	0	0	0	0	73
270	32	5	4	0	0	0	311
63	5	2	0	1	0	1	72
64	11	2	1	0	0	0	78
62	4	0	0	1	0	1	68
82	4	1	0	2	0	0	89
271							

Site J1 - N72 Dr.Hans Liebherr Road / Saint.Margaret's Road / R877 Port Road / N72 Rong of Kerry

1 Hr	319	48	17	11	6	0	0	401	63	5	0	0	0	0	0	68	377	24	8	2	9	0	1	421	470	52	5	13	6	1	0	547	1437
15:00	103	22	4	2	2	0	0	133	53	10	0	0	0	0	0	63	121	9	1	1	5	0	0	137	133	9	1	3	3	0	0	149	482
15:15	95	19	0	0	0	0	0	114	26	1	1	0	1	0	0	29	147	6	0	3	2	0	0	158	87	14	1	1	3	0	0	106	407
15:30	90	8	4	0	0	0	0	102	13	2	0	0	0	0	0	15	170	10	2	0	5	0	0	187	98	10	5	1	0	0	1	115	419
15:45	107	17	3	3	3	0	0	133	22	1	0	0	0	0	0	23	128	8	0	0	3	1	0	140	157	21	4	2	0	0	0	184	480
1 Hr	395	66	11	5	5	0	0	482	114	14	1	0	1	0	0	130	566	33	3	4	15	1	0	622	475	54	11	7	6	0	1	554	1788
16:00	89	11	6	1	1	0	0	108	65	7	1	0	0	0	0	73	114	6	0	0	0	0	1	121	128	8	1	2	2	0	0	141	443
16:15	59	15	5	1	0	0	0	80	38	8	0	1	0	0	0	47	92	5	1	0	1	1	0	100	129	14	2	1	0	0	0	146	373
16:30	71	9	2	2	2	0	0	86	38	3	3	0	0	0	0	44	89	9	0	0	0	0	0	98	175	21	2	3	1	0	0	202	430
16:45	78	20	0	0	0	1	0	99	64	4	0	0	0	0	0	68	95	9	2	0	1	0	0	107	168	27	2	1	1	0	0	199	473
1 Hr	297	55	13	4	3	1	0	373	205	22	4	1	0	0	0	232	390	29	3	0	2	1	1	426	600	70	7	7	4	0	0	688	1719
17:00	73	14	1	1	0	0	1	90	46	2	0	0	0	0	0	48	95	12	1	0	0	0	0	108	178	28	0	1	1	0	0	208	454
17:15	65	12	2	2	0	0	0	81	45	9	0	0	0	0	0	54	91	6	0	0	1	0	0	98	169	32	2	2	0	0	0	205	438
17:30	87	11	1	0	0	0	0	99	19	3	0	0	0	0	0	22	79	4	1	0	0	0	0	84	195	20	2	1	0	0	0	218	423
17:45	84	7	1	0	0	0	0	92	37	3	0	0	0	0	0	40	121	13	0	0	0	0	0	134	160	16	3	2	0	0	0	181	447
1 Hr	309	44	5	3	0	0	1	362	147	17	0	0	0	0	0	164	386	35	2	0	1	0	0	424	702	96	7	6	1	0	0	812	1762
18:00	91	5	1	0	0	0	0	97	33	2	0	0	0	0	0	35	69	8	0	1	0	0	0	78	161	18	0	0	0	0	0	179	389
18:15	79	2	0	0	0	0	0	81	18	1	0	0	0	0	0	19	92	1	0	0	0	0	0	93	170	16	3	0	1	0	0	190	383
18:30	68	10	1	0	1	0	0	80	4	0	0	0	0	0	0	4	64	3	0	0	1	0	0	68	115	11	0	0	1	0	0	127	279
18:45	89	6	1	0	1	0	0	97	5	1	0	0	0	0	0	6	109	1	0	0	0	0	0	110	108	10	1	0	1	0	0	120	333
1 Hr	327	23	3	0	2	0	0	355	60	4	0	0	0	0	0	64	334	13	0	1	1	0	0	349	554	55	4	0	3	0	0	616	1384
Total	3861	542	112	77	43	3	3	4641	955	84	11	1	4	0	1	1056	4444	387	55	24	60	6	5	4981	4988	676	110	74	52	3	9	5912	16590

Origin : Arm A R877 Port Road(NNW)

	Destination : Arm A R877 Port Road(NNW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
8:00	1	0	0	0	0	0	0	1
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	5	0	0	0	0	0	0	5
1 Hr	6	0	0	0	0	0	0	6
9:00	1	0	0	0	0	0	0	1
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0
1 Hr	1	0	0	0	0	0	0	1
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
15:00	1	0	0	0	0	0	0	1
15:15	1	0	0	0	0	0	0	1
15:30	4	0	0	0	0	0	0	4
15:45	2	1	0	0	0	0	0	3
1 Hr	8	1	0	0	0	0	0	9
16:00	1	0	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
1 Hr	1	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0

	Destination : Arm B New Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	0	1	0	0	0	0	1	2
7:15	5	0	0	0	1	0	0	6
7:30	1	0	0	0	0	0	0	1
7:45	6	3	0	0	0	0	0	9
1 Hr	12	4	0	0	1	0	1	18
8:00	20	0	0	0	2	0	0	22
8:15	78	3	0	0	6	0	0	87
8:30	59	1	0	0	4	0	0	64
8:45	76	3	0	0	0	0	0	79
1 Hr	233	7	0	0	12	0	0	252
9:00	36	3	1	0	0	0	2	42
9:15	25	1	0	0	0	0	0	26
9:30	9	1	1	0	0	0	0	11
9:45	5	1	1	0	0	0	0	7
1 Hr	75	6	3	0	0	0	2	86
10:00	7	0	0	0	0	0	0	7
10:15	4	1	0	0	1	0	0	6
10:30	5	1	0	0	0	0	0	6
10:45	9	3	0	0	0	0	0	12
1 Hr	25	5	0	0	1	0	0	31
11:00	7	0	0	0	0	0	1	8
11:15	8	0	0	0	0	0	0	8
11:30	4	0	0	0	0	0	0	4
11:45	3	2	0	0	0	0	0	5
1 Hr	22	2	0	0	0	0	1	25
12:00	10	0	0	0	0	0	0	10
12:15	5	0	0	0	0	0	0	5
12:30	2	1	0	0	1	0	1	5
12:45	8	0	0	0	1	0	0	9
1 Hr	25	1	0	0	2	0	1	29
13:00	11	1	0	0	2	0	0	14
13:15	8	1	0	0	0	0	0	9
13:30	10	0	0	0	0	0	0	10
13:45	8	1	0	0	0	0	0	9
1 Hr	37	3	0	0	2	0	0	42
14:00	16	2	0	0	0	0	0	18
14:15	18	0	0	0	0	0	0	18
14:30	4	0	0	0	1	0	0	5
14:45	12	0	0	0	1	0	0	13
1 Hr	50	2	0	0	2	0	0	54
15:00	17	0	0	0	1	0	0	18
15:15	44	0	0	0	2	0	0	46
15:30	36	0	0	0	4	0	0	40
15:45	27	1	0	0	3	0	0	31
1 Hr	124	1	0	0	10	0	0	135
16:00	15	0	0	0	0	0	0	15
16:15	9	0	0	0	0	0	0	9
16:30	9	0	0	0	0	0	0	9
16:45	5	0	0	0	0	0	0	5
1 Hr	38	0	0	0	0	0	0	38
17:00	8	1	0	0	0	0	0	9
17:15	6	0	0	0	0	0	0	6
17:30	8	0	1	0	0	0	0	9
17:45	23	1	0	0	0	0	0	24
1 Hr	45	2	1	0	0	0	0	48
18:00	9	1	0	0	0	0	0	10
18:15	3	0	0	0	0	0	0	3
18:30	10	1	0	0	0	0	0	11
18:45	22	0	0	0	0	0	0	22

	Destination : Arm C R877 Port Road(S)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	9	3	0	0	0	0	0	12
7:15	24	4	0	0	1	0	0	29
7:30	34	6	1	0	0	0	0	41
7:45	61	28	1	0	1	0	0	91
1 Hr	128	41	2	0	2	0	0	173
8:00	57	11	0	1	1	0	0	70
8:15	109	12	2	0	1	0	0	124
8:30	101	9	3	2	0	0	0	115
8:45	127	13	2	0	1	0	0	143
1 Hr	394	45	7	3	3	0	0	452
9:00	115	11	0	2	1	0	0	129
9:15	86	11	3	2	0	1	0	103
9:30	72	7	1	0	0	0	0	80
9:45	83	4	0	0	1	0	0	88
1 Hr	356	33	4	4	2	1	0	400
10:00	75	8	5	0	1	1	0	90
10:15	68	10	2	0	1	0	0	81
10:30	76	6	1	0	0	0	1	84
10:45	89	2	0	0	1	2	0	94
1 Hr	308	26	8	0	3	3	1	349
11:00	60	8	3	0	0	0	0	71
11:15	74	6	1	2	0	0	0	83
11:30	59	8	1	2	0	0	0	70
11:45	70	9	1	0	0	0	0	80
1 Hr	263	31	6	4	0	0	0	304
12:00	62	3	1	0	0	0	1	67
12:15	63	9	3	1	1	0	0	77
12:30	61	4	0	0	0	0	1	66
12:45	78	6	1	0	1	0	0	86
1 Hr	264	22	5	1	2	0	2	296
13:00	71	2	2	0	0	0	0	75
13:15	58	9	1	0	1	0	0	69
13:30	76	7	1	4	0	0	0	88
13:45	77	11	1	1	1	0	0	91
1 Hr	282	29	5	5	2	0	0	323
14:00	74	12	4	0	1	0	0	91
14:15	76	4	1	0	0	0	0	81
14:30	79	5	1	0	4	0	0	89
14:45	90	4	2	2	2	0	1	101
1 Hr	319	25	8	2	7	0	1	362
15:00	110	9	0	1	2	0	0	122
15:15	98	6	0	3	2	0	0	109
15:30	120	10	3	0	1	0	0	134
15:45	114	5	0	0	0	1	0	120
1 Hr	442	30	3	4	5	1	0	485
16:00	98	5	0	0	0	0	1	104
16:15	84	5	1	0	1	1	0	92
16:30	82	9	0	0	0	0	0	91
16:45	89	9	2	0	1	0	0	101
1 Hr	353	28	3	0	2	1	1	388
17:00	87	11	1	0	0	0	0	99
17:15	84	5	0	0	1	0	0	90
17:30	65	5	0	0	0	0	0	70
17:45	94	10	0	0	0	0	0	104
1 Hr	330	31	1	0	1	0	0	363
18:00	74	8	0	1	0	0	0	83
18:15	86	3	0	0	0	0	0	89
18:30	57	3	0	0	1	0	0	61
18:45	84	1	0	0	0	0	0	85

Arm Totals
14
35
42
100
191
93
211
179
227
710
172
129
91
95
487
97
87
90
106
380



Site J2 - R877 Port Road(NNW) / New Road / R877 Port Road(S)

18:00	15	0	0	0	0	0	0	15
18:15	13	0	0	0	0	0	0	13
18:30	10	1	0	0	0	0	0	11
18:45	12	1	0	0	0	0	0	13
1 Hr	50	2	0	0	0	0	0	52

0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	1

30	4	0	0	0	0	0	0	34
15	3	1	0	0	0	0	0	19
14	0	0	0	0	0	0	0	14
11	1	0	0	0	0	0	0	12
70	8	1	0	0	0	0	0	79

49
32
25
25
131

Total	324	29	5	0	10	0	3	371
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1	0	0	0	0	0	0	0	1
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506	38	6	0	3	0	1	554
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926
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Origin : Arm C R877 Port Road(S)

	Destination : Arm A R877 Port Road(NNW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	

	Destination : Arm B New Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	

	Destination : Arm C R877 Port Road(S)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	

Arm Totals
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7:00	13	1	0	0	0	0	0	14
7:15	15	1	1	2	1	1	0	21
7:30	23	10	1	0	0	0	0	34
7:45	22	4	0	1	0	0	0	27
1 Hr	73	16	2	3	1	1	0	96

0	0	0	0	0	0	0	0	0
2	1	0	0	1	0	0	0	4
2	1	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	1
5	2	0	0	1	0	0	0	8

0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

14
25
37
28
104

8:00	49	4	1	1	3	0	0	58
8:15	51	3	2	1	0	0	0	57
8:30	83	7	0	0	0	0	0	90
8:45	73	12	2	0	1	0	0	88
1 Hr	256	26	5	2	4	0	0	293

6	1	0	0	0	0	0	0	7
22	3	1	0	1	0	0	0	27
45	1	0	0	0	0	0	0	46
26	2	0	0	2	0	0	0	30
99	7	1	0	3	0	0	0	110

1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	5

66
84
139
119
408

9:00	57	2	1	0	3	0	0	63
9:15	40	8	1	0	0	0	0	49
9:30	34	6	2	2	0	0	0	44
9:45	30	5	1	1	1	0	0	38
1 Hr	161	21	5	3	4	0	0	194

9	0	0	0	0	0	0	0	9
8	0	0	0	0	0	0	0	8
0	0	0	0	0	0	0	0	0
6	1	0	0	0	0	0	0	7
23	1	0	0	0	0	0	0	24

0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	1

72
58
44
45
219

10:00	24	7	0	1	0	0	1	33
10:15	37	4	2	0	1	0	0	44
10:30	40	4	1	0	1	0	0	46
10:45	29	7	1	1	0	0	0	38
1 Hr	130	22	4	2	2	0	1	161

2	1	0	0	0	0	0	0	3
6	0	0	0	0	0	0	0	6
3	1	0	0	0	0	0	0	4
7	0	0	0	0	0	0	0	7
18	2	0	0	0	0	0	0	20

0	0	0	0	0	0	0	0	0
1	1	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	1
3	1	0	0	0	0	0	0	4

36
52
51
46
185

11:00	42	9	1	0	0	1	0	53
11:15	51	5	0	0	2	0	0	58
11:30	46	3	3	0	2	0	0	54
11:45	51	5	1	1	0	0	0	58
1 Hr	190	22	5	1	4	1	0	223

10	1	0	0	0	0	0	0	11
5	0	0	0	0	0	0	0	5
5	1	0	0	0	0	0	0	6
2	0	0	0	0	0	0	0	2
22	2	0	0	0	0	0	0	24

1	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	2

65
64
60
60
249

12:00	63	6	1	1	1	0	0	72
12:15	57	2	1	0	1	0	0	61
12:30	51	5	0	0	1	0	0	57
12:45	51	7	3	0	0	0	0	61
1 Hr	222	20	5	1	3	0	0	251

3	0	0	0	0	0	0	0	3
7	0	0	0	0	0	0	0	7
4	0	0	0	0	0	0	0	4
7	0	0	0	0	0	0	0	7
21	0	0	0	0	0	0	0	21

1	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	2

76
68
62
68
274

13:00	53	7	1	1	0	0	0	62
13:15	67	5	1	1	0	0	1	75
13:30	52	4	1	1	0	0	1	59
13:45	48	7	2	0	0	0	0	57
1 Hr	220	23	5	3	0	0	2	253

6	0	0	0	0	0	0	0	6
6	0	0	0	0	0	0	0	6
8	1	0	0	0	0	0	0	9
9	0	0	0	0	0	0	0	9
29	1	0	0	0	0	0	0	30

1	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	2

69
82
68
66
285

14:00	56	4	0	2	0	0	0	62
14:15	66	8	1	2	1	0	0	78
14:30	71	8	1	1	2	0	0	83
14:45	72	8	1	0	0	1	0	82
1 Hr	265	28	3	5	3	1	0	305

7	0	0	0	0	0	0	0	7
9	0	0	0	0	1	0	0	10
4	0	0	0	0	0	0	0	4
4	0	0	0	0	0	0	0	4
24	0	0	0	1	0	0	0	25

0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

69
88
87
86
330

15:00	69	1	2	0	3	0	0	75
15:15	58	3	1	0	0	0	0	62
15:30	68	2	1	0	0	0	0	71
15:45	110	10	1	1	0	0	0	122
1 Hr	305	16	5	1	3	0	0	330

15	1	0	0	0	0	0	0	16
11	0	0	0	1	0	0	0	12
18	1	0	0	0	0	0	0	19
11	0	0	0					

Site J2 - R877 Port Road(NNW) / New Road / R877 Port Road(S)

17:15	75	13	0	1	0	0	0	89
17:30	72	1	0	1	0	0	0	74
17:45	66	6	1	0	0	0	0	73
1 Hr	290	34	1	3	0	0	0	328
18:00	98	6	1	0	0	0	0	105
18:15	85	11	0	0	0	0	0	96
18:30	51	2	0	0	0	0	0	53
18:45	82	4	1	0	1	0	0	88
1 Hr	316	23	2	0	1	0	0	342
Total	2706	297	47	25	26	4	3	3108

4	0	0	0	0	0	0	0	4
4	0	0	0	0	0	0	0	4
13	1	0	0	0	0	0	0	14
24	2	0	0	0	0	0	0	26
5	2	0	0	0	0	0	0	7
2	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	7
9	1	0	0	0	0	0	0	10
23	3	0	0	0	0	0	0	26
391	22	1	0	10	0	0	0	424

1	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	2
28	1	0	0	0	0	0	0	29
3561								

ORIGIN SUMMARY

	Origin : Arm A R877 Port Road(NNW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	9	4	0	0	0	0	1	14
7:15	29	4	0	0	2	0	0	35
7:30	35	6	1	0	0	0	0	42
7:45	67	31	1	0	1	0	0	100
1 Hr	140	45	2	0	3	0	1	191
8:00	78	11	0	1	3	0	0	93
8:15	187	15	2	0	7	0	0	211
8:30	160	10	3	2	4	0	0	179
8:45	208	16	2	0	1	0	0	227
1 Hr	633	52	7	3	15	0	0	710
9:00	152	14	1	2	1	0	2	172
9:15	111	12	3	2	0	1	0	129
9:30	81	8	2	0	0	0	0	91
9:45	88	5	1	0	1	0	0	95
1 Hr	432	39	7	4	2	1	2	487
10:00	82	8	5	0	1	1	0	97
10:15	72	11	2	0	2	0	0	87
10:30	81	7	1	0	0	0	1	90
10:45	98	5	0	0	1	2	0	106
1 Hr	333	31	8	0	4	3	1	380
11:00	67	8	3	0	0	0	1	79
11:15	82	6	1	2	0	0	0	91
11:30	63	8	1	2	0	0	0	74
11:45	73	11	1	0	0	0	0	85
1 Hr	285	33	6	4	0	0	1	329
12:00	72	3	1	0	0	0	1	77
12:15	68	9	3	1	1	0	0	82
12:30	63	5	0	0	1	0	2	71
12:45	86	6	1	0	2	0	0	95
1 Hr	289	23	5	1	4	0	3	325
13:00	82	3	2	0	2	0	0	89
13:15	66	10	1	0	1	0	0	78
13:30	86	7	1	4	0	0	0	98
13:45	85	12	1	1	1	0	0	100
1 Hr	319	32	5	5	4	0	0	365
14:00	90	14	4	0	1	0	0	109
14:15	94	4	1	0	0	0	0	99
14:30	83	5	1	0	5	0	0	94
14:45	102	4	2	2	3	0	1	114
1 Hr	369	27	8	2	9	0	1	416
15:00	128	9	0	1	3	0	0	141
15:15	143	6	0	3	4	0	0	156
15:30	160	10	3	0	5	0	0	178
15:45	143	7	0	0	3	1	0	154
1 Hr	574	32	3	4	15	1	0	629
16:00	114	5	0	0	0	0	1	120
16:15	93	5	1	0	1	1	0	101

	Origin : Arm B New Road							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
2	0	0	0	0	0	0	0	2
0	1	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	7
7	1	0	0	0	0	0	0	8
16	2	0	0	0	0	0	0	18
6	2	1	0	0	0	0	0	9
5	0	0	0	0	0	0	0	5
5	1	2	0	0	0	0	0	8
8	0	2	0	1	0	0	0	11
24	3	5	0	1	0	0	0	33
6	0	0	0	0	0	0	0	6
5	3	0	0	0	0	0	0	8
6	2	0	0	0	0	0	0	8
13	0	0	0	1	0	0	0	14
30	5	0	0	1	0	0	0	36
24	2	0	0	0	0	0	0	26
19	2	2	0	0	0	0	0	23
15	2	0	0	1	0	0	0	18
18	1	0	0	0	0	0	0	19
76	7	2	0	1	0	0	0	86
16	1	0	0	0	0	0	0	17
17	0	0	0	0	0	0	0	17
29	2	0	0	1	0	0	0	32
19	3	0	0	0	0	0	0	22
81	6	0	0	1	0	0	0	88
13	1	0	0	0	0	0	0	14
25	0	0	0	1	0	0	0	26
17	2	0	0	0	0	0	0	19
13	0	0	0	0	0	0	0	13
68	3	0	0	1	0	0	0	72
18	1	1	0	0	0	0	0	20
24	1	0	0	2	0	3	0	30
18	2	1	0	0	0	0	0	21
15	1	0	0	2	0	1	0	19
75	5	2	0	4	0	4	0	90
12	2	0	0	0	0	0	0	14
28	0	0	0	0	0	0	0	28
36	1	0	0	0	0	0	0	37
10	2	0	0	0	0	0	0	12
86	5	0	0	0	0	0	0	91
9	0	0	0	0	0	0	0	9
14	0	0	0	0	0	0	0	14
10	0	0	0	1	0	0	0	11
13	1	0	0	0	0	0	0	14
46	1	0	0	1	0	0	0	48
23	1	0	0	3	0	0	0	27
27	2	1	0	0	0	0	0	30

	Origin : Arm C R877 Port Road(S)							Total	Origin Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC		
13	1	0	0	0	0	0	0	14	30
17	2	1	2	2	1	0	0	25	61
25	11	1	0	0	0	0	0	37	86
23	4	0	1	0	0	0	0	28	136
78	18	2	3	2	1	0	0	104	313
56	5	1	1	3	0	0	0	66	168
73	6	3	1	1	0	0	0	84	300
131	8	0	0	0	0	0	0	139	326
100	14	2	0	3	0	0	0	119	357
360	33	6	2	7	0	0	0	408	1151
66	2	1	0	3	0	0	0	72	250
49	8	1	0	0	0	0	0	58	195
34	6	2	2	0	0	0	0	44	143
36	6	1	1	1	0	0	0	45	154
185	22	5	3	4	0	0	0	219	742
26	8	0	1	0	0	1	0	36	159
44	5	2	0	1	0	0	0	52	162
44	5	1	0	1	0	0	0	51	159
37	7	1	1	0	0	0	0	46	171
151	25	4	2	2	0	1	0	185	651
53	10	1	0	0	1	0	0	65	161
57	5	0	0	2	0	0	0	64	172
51	4	3	0	2	0	0	0	60	166
53	5	1	1	0	0	0	0	60	167
214	24	5	1	4	1	0	0	249	666
67	6	1	1	1	0	0	0	76	167
64	2	1	0	1	0	0	0	68	176
56	5	0	0	1	0	0	0	62	152
58	7	3	0	0	0	0	0	68	176
245	20	5	1	3	0	0	0	274	671
60	7	1	1	0	0	0	0	69	178
74	5	1	1	0	0	1	0	82	190
60	5	1	1	0	0	1	0	68	187
57	7	2	0	0	0	0	0	66	185
251	24	5	3	0	0	2	0	285	740
63	4	0	2	0	0	0	0	69	192
75	8	1	2	2	0	0	0	88	215
75	8	1	1	2	0	0	0	87	218
76	8	1	0	0	1	0	0	86	212
289	28	3	5	4	1	0	0	330	837
84	2	2	0	3	0	0	0	91	241
69	3	1	0	1	0	0	0	74	244
88	3	1	0	0	0	0	0	92	281
122	10	1	1	3	0	0	0	137	305
363	18	5	1	7	0	0	0	394	1071
88	11	1	0	1	0	0	0	101	248
79	7	4	1	0	0	0	0	91	222

**Site J2 - R877 Port Road(NNW) / New Road / R877 Port Road(S)**

16:30	91	9	0	0	0	0	0	0	100
16:45	94	9	2	0	1	0	0	0	106
1 Hr	392	28	3	0	2	1	1	1	427
17:00	95	12	1	0	0	0	0	0	108
17:15	90	5	0	0	1	0	0	0	96
17:30	73	5	1	0	0	0	0	0	79
17:45	117	11	0	0	0	0	0	0	128
1 Hr	375	33	2	0	1	0	0	0	411
18:00	83	9	0	1	0	0	0	0	93
18:15	89	3	0	0	0	0	0	0	92
18:30	67	4	0	0	1	0	0	0	72
18:45	106	1	0	0	0	0	0	0	107
1 Hr	345	17	0	1	1	0	0	0	364

22	0	0	0	0	0	0	0	0	22
27	5	0	0	0	0	0	0	0	32
99	8	1	0	3	0	0	0	0	111
19	3	0	0	0	0	0	0	0	22
21	9	0	0	0	0	0	0	0	30
33	0	0	0	0	0	0	0	0	33
37	0	0	0	0	0	0	0	0	37
110	12	0	0	0	0	0	0	0	122
45	4	0	0	0	0	0	0	0	49
28	3	1	0	0	0	0	0	0	32
24	1	0	0	0	0	0	0	0	25
23	2	0	0	0	0	0	0	0	25
120	10	1	0	0	0	0	0	0	131

93	12	0	0	1	0	0	0	0	106
72	16	0	0	0	1	0	0	0	89
332	46	5	1	2	1	0	0	0	387
81	15	0	1	0	0	0	0	0	97
80	13	0	1	0	0	0	0	0	94
76	1	0	1	0	0	0	0	0	78
79	7	1	0	0	0	0	0	0	87
316	36	1	3	0	0	0	0	0	356
103	8	1	0	0	0	0	0	0	112
87	11	0	0	0	0	0	0	0	98
60	2	0	0	0	0	0	0	0	62
91	5	1	0	1	0	0	0	0	98
341	26	2	0	1	0	0	0	0	370

228
227
925
227
220
190
252
889
254
222
159
230
865

Total	4486	392	56	24	60	6	10	10	5034
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831	67	11	0	13	0	4	4	926
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3125	320	48	25	36	4	3	3	3561
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9521
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DESTINATION SUMMARY

Destination : Arm A R877 Port Road(NNW)								Total
Car	LGV	OGV1	OGV2	PSV	MC	PC		

7:00	15	1	0	0	0	0	0	0	16
7:15	15	2	1	2	1	1	0	0	22
7:30	28	10	1	0	0	0	0	0	39
7:45	26	4	0	1	0	0	0	0	31
1 Hr	84	17	2	3	1	1	0	0	108
8:00	51	5	1	1	3	0	0	0	61
8:15	52	3	2	1	0	0	0	0	58
8:30	84	7	2	0	0	0	0	0	93
8:45	78	12	2	0	2	0	0	0	94
1 Hr	265	27	7	2	5	0	0	0	306
9:00	63	2	1	0	3	0	0	0	69
9:15	43	9	1	0	0	0	0	0	53
9:30	34	7	2	2	0	0	0	0	45
9:45	33	5	1	1	2	0	0	0	42
1 Hr	173	23	5	3	5	0	0	0	209
10:00	28	8	0	1	0	0	0	1	38
10:15	40	4	3	0	1	0	0	0	48
10:30	47	6	1	0	2	0	0	0	56
10:45	33	7	1	1	0	0	0	0	42
1 Hr	148	25	5	2	3	0	1	1	184
11:00	46	10	1	0	0	1	0	0	58
11:15	56	5	0	0	2	0	0	0	63
11:30	55	3	3	0	3	0	0	0	64
11:45	56	7	1	1	0	0	0	0	65
1 Hr	213	25	5	1	5	1	0	0	250
12:00	66	6	1	1	1	0	0	0	75
12:15	63	2	1	0	1	0	0	0	67
12:30	57	5	0	0	1	0	0	0	63
12:45	55	7	3	0	0	0	0	0	65
1 Hr	241	20	5	1	3	0	0	0	270
13:00	59	8	2	1	0	0	0	0	70
13:15	75	5	1	1	1	0	3	0	86
13:30	59	4	1	1	0	0	1	0	66
13:45	53	7	2	0	1	0	1	0	64
1 Hr	246	24	6	3	2	0	5	0	286
14:00	59	4	0	2	0	0	0	0	65
14:15	79	8	1	2	1	0	0	0	91
14:30	89	9	1	1	2	0	0	0	102
14:45	76	9	1	0	0	1	0	0	87
1 Hr	303	30	3	5	3	1	0	0	345
15:00	76	1	2	0	3	0	0	0	82
15:15	67	3	1	0	0	0	0	0	71
15:30	78	2	1	0	1	0	0	0	82

Destination : Arm B New Road								Total
Car	LGV	OGV1	OGV2	PSV	MC	PC		

0	1	0	0	0	0	0	1	2
7	1	0	0	2	0	0	0	10
3	1	0	0	0	0	0	0	4
7	3	0	0	0	0	0	0	10
17	6	0	0	2	0	1	1	26
26	1	0	0	2	0	0	0	29
100	6	1	0	7	0	0	0	114
104	2	0	0	4	0	0	0	110
102	5	0	0	2	0	0	0	109
332	14	1	0	15	0	0	0	362
45	3	1	0	0	0	2	2	51
33	1	0	0	0	0	0	0	34
9	1	1	0	0	0	0	0	11
11	2	1	0	0	0	0	0	14
98	7	3	0	0	0	2	2	110
9	1	0	0	0	0	0	0	10
10	1	0	0	1	0	0	0	12
8	2	0	0	0	0	0	0	10
16	3	0	0	0	0	0	0	19
43	7	0	0	1	0	0	0	51
17	1	0	0	0	0	0	1	19
13	0	0	0	0	0	0	0	13
9	1	0	0	0	0	0	0	10
5	2	0	0	0	0	0	0	7
44	4	0	0	0	0	0	1	49
13	0	0	0	0	0	0	0	13
12	0	0	0	0	0	0	0	12
6	1	0	0	1	0	1	0	9
15	0	0	0	1	0	0	0	16
46	1	0	0	2	0	1	1	50
17	1	0	0	2	0	0	0	20
14	1	0	0	0	0	0	0	15
18	1	0	0	0	0	0	0	19
17	1	0	0	0	0	0	0	18
66	4	0	0	2	0	0	0	72
23	2	0	0	0	0	0	0	25
27	0	0	0	1	0	0	0	28
8	0	0	0	1	0	0	0	9
16	0	0	0	1	0	0	0	17
74	2	0	0	3	0	0	0	79
32	1	0	0	1	0	0	0	34
55	0	0	0	3	0	0	0	58
55	1	0	0	4	0	0	0	60

Destination : Arm C R877 Port Road(S)								Total
Car	LGV	OGV1	OGV2	PSV	MC	PC		

9	3	0	0	0	0	0	0	12
24	4	0	0	1	0	0	0	29
36	6	1	0	0	0	0	0	43
64	29	1	0	1	0	0	0	95
133	42	2	0	2	0	0	0	179
63	12	1	1	1	0	0	0	78
113	12	2	0	1	0	0	0	128
108	10	3	2	0	0	0	0	123
136	13	4	0	1	0	0	0	154
420	47	10	3	3	0	0	0	483
116	11	0	2	1	0	0	0	130
89	13	3	2	0	1	0	0	108
78	8	1	0	0	0	0	0	87
93	4	0	0	1	0	0	0	98
376	36	4	4	2	1	0	0	423
95	9	5	0	1	1	0	0	111
85	13	3	0	1	0	0	0	102
85	6	1	0	0	0	1	0	93
104	3	0	0	1	2	0	0	110
369	31	9	0	3	3	1	1	416
73	8	3	0	0	0	0	0	84
87	6	1	2	0	0	0	0	96
79	10	1	2	0	0	0	0	92
84	10	1	0	0	0	0	0	95
323	34	6	4	0	0	0	0	367
73	4	1	0	0	0	1	1	79
82	9	3	1	2	0	0	0	97
73	6	0	0	0	0	1	0	80
87	6	1	0	1	0	0	0	95
315	25	5	1	3	0	2	2	351
84	2	2	0	0	0	0	0	88
75	10	1	0	2	0	1	0	89
87	9	2	4	0	0	0	0	102
87	12	1	1	2	0	0	0	103
333	33	6	5	4	0	1	1	382
83	14	4	0	1	0	0	0	102
91	4	1	0	0	0	0	0	96
97	5	1	0	4	0	0	0	107
96	5	2	2	2	0	1	1	108
367	28	8	2	7	0			



Site J2 - R877 Port Road(NNW) / New Road / R877 Port Road(S)

15:45	120	12	1	1	0	0	0	134
1 Hr	341	18	5	1	4	0	0	369
16:00	71	11	1	0	3	0	0	86
16:15	76	9	5	1	0	0	0	91
16:30	92	12	0	0	1	0	0	105
16:45	82	19	0	0	0	1	0	102
1 Hr	321	51	6	1	4	1	0	384
17:00	86	17	0	1	0	0	0	104
17:15	88	18	0	1	0	0	0	107
17:30	89	1	0	1	0	0	0	91
17:45	82	6	1	0	0	0	0	89
1 Hr	345	42	1	3	0	0	0	391
18:00	113	6	1	0	0	0	0	120
18:15	98	11	0	0	0	0	0	109
18:30	61	3	0	0	0	0	0	64
18:45	94	5	1	0	1	0	0	101
1 Hr	366	25	2	0	1	0	0	394
Total	3046	327	52	25	36	4	6	3496

38	1	0	0	6	0	0	45
180	3	0	0	14	0	0	197
41	0	0	0	1	0	0	42
21	0	0	0	0	0	0	21
17	0	0	0	0	0	0	17
7	0	0	0	0	0	0	7
86	0	0	0	1	0	0	87
11	2	0	0	0	0	0	13
10	0	0	0	0	0	0	10
12	0	1	0	0	0	0	13
36	2	0	0	0	0	0	38
69	4	1	0	0	0	0	74
14	3	0	0	0	0	0	17
5	0	0	0	0	0	0	5
17	1	0	0	0	0	0	18
31	1	0	0	0	0	0	32
67	5	0	0	0	0	0	72
1122	57	5	0	40	0	5	1229

120	5	0	0	0	1	0	126
462	30	3	4	5	1	0	505
113	6	0	0	0	0	1	120
102	5	1	0	1	1	0	110
97	9	0	0	0	0	0	106
104	11	2	0	1	0	0	118
416	31	3	0	2	1	1	454
98	11	1	0	0	0	0	110
93	9	0	0	1	0	0	103
81	5	0	0	0	0	0	86
115	10	0	0	0	0	0	125
387	35	1	0	1	0	0	424
104	12	0	1	0	0	0	117
101	6	1	0	0	0	0	108
73	3	0	0	1	0	0	77
95	2	0	0	0	0	0	97
373	23	1	1	1	0	0	399
4274	395	58	24	33	6	6	4796
9521							

## **APPENDIX D – MTC OF MILLWOOD ESTATE ENTRANCE**

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Origin : Arm A Saint.Margaret's Road(ESE)

	Destination : Arm A Saint.Margaret's Road(ESE)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	0	0	0	0	0	0	0	0
8:30	0	0	0	0	0	0	0	0
8:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
9:00	0	0	0	0	0	0	0	0
9:15	0	0	0	0	0	0	0	0
9:30	0	0	0	0	0	0	0	0
9:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
12:00	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
15:00	0	0	0	0	0	0	0	0
15:15	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0

	Destination : Arm B Millwood							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	0	0	0	0	0	0	0	0
7:15	0	0	0	0	0	0	0	0
7:30	0	0	0	0	0	0	0	0
7:45	0	0	0	0	0	0	0	0
1 Hr	0	0	0	0	0	0	0	0
8:00	0	0	0	0	0	0	0	0
8:15	1	0	0	0	0	0	0	1
8:30	2	0	0	0	0	0	0	2
8:45	1	0	0	0	0	0	0	1
1 Hr	4	0	0	0	0	0	0	4
9:00	2	0	0	0	0	0	0	2
9:15	1	1	0	0	0	0	0	2
9:30	2	0	0	0	0	0	0	2
9:45	0	0	0	0	0	0	0	0
1 Hr	5	1	0	0	0	0	0	6
10:00	1	0	0	0	0	0	0	1
10:15	3	0	0	0	0	0	0	3
10:30	1	1	0	0	0	0	0	2
10:45	0	0	0	0	0	0	0	0
1 Hr	5	1	0	0	0	0	0	6
11:00	2	0	0	0	0	0	0	2
11:15	1	0	0	0	0	0	0	1
11:30	1	0	0	0	0	0	0	1
11:45	2	0	0	0	0	0	0	2
1 Hr	6	0	0	0	0	0	0	6
12:00	0	1	0	0	0	0	0	1
12:15	2	0	0	0	0	0	0	2
12:30	1	0	0	0	0	0	0	1
12:45	3	0	0	0	0	0	0	3
1 Hr	6	1	0	0	0	0	0	7
13:00	1	0	0	0	0	0	1	2
13:15	2	0	0	0	0	0	0	2
13:30	1	0	0	0	0	0	0	1
13:45	1	0	0	0	0	0	0	1
1 Hr	5	0	0	0	0	0	1	6
14:00	1	0	0	0	0	0	0	1
14:15	2	0	0	0	0	0	0	2
14:30	2	0	0	0	0	0	0	2
14:45	0	0	0	0	0	0	0	0
1 Hr	5	0	0	0	0	0	0	5
15:00	2	0	0	0	0	0	0	2
15:15	0	0	0	0	0	0	1	1
15:30	2	0	0	0	0	0	0	2
15:45	0	0	0	0	0	0	0	0
1 Hr	4	0	0	0	0	0	1	5
16:00	0	0	0	0	0	0	1	1
16:15	2	0	0	0	0	0	1	3
16:30	1	0	0	0	0	0	0	1
16:45	1	0	0	0	0	0	0	1
1 Hr	4	0	0	0	0	0	2	6
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0

	Destination : Arm C Saint.Margaret's Road(WNW)							Total	Arm Totals
	Car	LGV	OGV1	OGV2	PSV	MC	PC		
7:00	0	0	0	0	0	0	0	0	0
7:15	5	1	0	0	0	0	0	6	6
7:30	7	0	0	0	0	0	1	8	8
7:45	4	0	1	0	0	0	0	5	5
1 Hr	16	1	1	0	0	0	1	19	19
8:00	12	0	0	0	0	0	0	12	12
8:15	14	3	0	0	2	0	0	19	20
8:30	35	5	0	0	2	0	1	43	45
8:45	50	5	0	0	0	0	0	55	56
1 Hr	111	13	0	0	4	0	1	129	133
9:00	30	3	1	0	0	1	0	35	37
9:15	17	5	0	0	0	0	0	22	24
9:30	5	1	0	0	0	0	0	6	8
9:45	8	0	0	0	1	0	0	9	9
1 Hr	60	9	1	0	1	1	0	72	78
10:00	6	3	0	0	0	0	0	9	10
10:15	4	0	0	0	0	0	0	4	7
10:30	9	0	1	0	0	0	0	10	12
10:45	13	0	1	0	0	0	0	14	14
1 Hr	32	3	2	0	0	0	0	37	43
11:00	5	0	0	0	0	0	0	5	7
11:15	7	1	0	0	0	0	0	8	9
11:30	5	1	0	0	0	0	0	6	7
11:45	12	0	0	0	0	0	0	12	14
1 Hr	29	2	0	0	0	0	0	31	37
12:00	11	0	0	0	0	0	0	11	12
12:15	9	4	0	0	0	0	0	13	15
12:30	11	0	1	0	0	0	0	12	13
12:45	21	0	0	0	0	0	0	21	24
1 Hr	52	4	1	0	0	0	0	57	64
13:00	19	0	0	0	1	0	0	20	22
13:15	20	0	0	0	0	0	0	20	22
13:30	8	0	0	0	0	0	0	8	9
13:45	14	0	0	0	2	0	0	16	17
1 Hr	61	0	0	0	3	0	0	64	70
14:00	10	1	0	0	0	0	0	11	12
14:15	16	1	0	0	0	0	0	17	19
14:30	23	0	0	0	3	0	0	26	28
14:45	21	0	0	0	0	0	0	21	21
1 Hr	70	2	0	0	3	0	0	75	80
15:00	25	2	0	0	2	0	0	29	31
15:15	31	2	0	0	2	0	0	35	36
15:30	27	4	0	0	1	0	1	33	35
15:45	43	6	0	0	1	0	1	51	51
1 Hr	126	14	0	0	6	0	2	148	153
16:00	27	0	0	0	0	0	0	27	28
16:15	22	2	0	0	0	0	0	24	27
16:30	23	1	1	0	0	0	0	25	26
16:45	25	1	1	0	0	0	0	27	28
1 Hr	97	4	2	0	0	0	0	103	109
17:00	33	5	0	0	0	0	0	38	38
17:15	20	3	0	0	1	0	0	24	24







1 Hr	37	4	2	0	0	0	0	43
11:00	7	0	0	0	0	0	0	7
11:15	8	1	0	0	0	0	0	9
11:30	6	1	0	0	0	0	0	7
11:45	14	0	0	0	0	0	0	14
1 Hr	35	2	0	0	0	0	0	37
12:00	11	1	0	0	0	0	0	12
12:15	11	4	0	0	0	0	0	15
12:30	12	0	1	0	0	0	0	13
12:45	24	0	0	0	0	0	0	24
1 Hr	58	5	1	0	0	0	0	64
13:00	20	0	0	0	1	0	1	22
13:15	22	0	0	0	0	0	0	22
13:30	9	0	0	0	0	0	0	9
13:45	15	0	0	0	2	0	0	17
1 Hr	66	0	0	0	3	0	1	70
14:00	11	1	0	0	0	0	0	12
14:15	18	1	0	0	0	0	0	19
14:30	25	0	0	0	3	0	0	28
14:45	21	0	0	0	0	0	0	21
1 Hr	75	2	0	0	3	0	0	80
15:00	27	2	0	0	2	0	0	31
15:15	31	2	0	0	2	0	1	36
15:30	29	4	0	0	1	0	1	35
15:45	43	6	0	0	1	0	1	51
1 Hr	130	14	0	0	6	0	3	153
16:00	27	0	0	0	0	0	1	28
16:15	24	2	0	0	0	0	1	27
16:30	24	1	1	0	0	0	0	26
16:45	26	1	1	0	0	0	0	28
1 Hr	101	4	2	0	0	0	2	109
17:00	33	5	0	0	0	0	0	38
17:15	20	3	0	0	1	0	0	24
17:30	28	3	0	0	0	0	0	31
17:45	27	1	0	0	0	0	1	29
1 Hr	108	12	0	0	1	0	1	122
18:00	26	2	0	0	0	0	0	28
18:15	25	1	0	0	0	0	0	26
18:30	12	0	0	0	0	0	0	12
18:45	17	1	0	0	0	0	0	18
1 Hr	80	4	0	0	0	0	0	84
Total	886	71	7	0	18	1	9	992

10	1	0	0	0	0	0	0	11
4	0	0	0	0	0	0	0	4
2	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	2
8	0	0	0	0	0	0	0	8
2	0	0	0	0	0	0	0	2
2	1	0	0	0	0	0	0	3
2	0	0	0	0	0	0	0	2
3	0	0	0	0	0	0	0	3
9	1	0	0	0	0	0	0	10
4	0	0	0	0	0	0	1	5
3	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	1	3
10	0	0	0	0	0	0	2	12
6	0	0	0	0	0	0	1	7
5	0	0	0	0	0	0	0	5
5	0	0	0	0	0	0	0	5
2	0	0	0	0	0	0	0	2
18	0	0	0	0	0	0	1	19
3	0	0	0	0	0	0	0	3
2	0	0	0	0	0	0	0	2
1	2	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	1
7	2	0	0	0	0	0	0	9
2	0	0	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	3
3	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	7
2	0	0	0	0	0	0	0	2
3	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	4
10	0	0	0	0	0	0	0	10
98	6	0	0	0	0	0	4	108

32	5	0	0	0	0	0	0	37
6	2	0	0	2	0	0	0	10
5	0	0	0	0	0	0	0	5
16	0	0	0	0	0	0	0	16
13	1	0	0	0	0	0	0	14
40	3	0	0	2	0	0	0	45
8	1	0	0	0	0	0	1	10
8	0	1	0	0	0	0	0	9
11	0	0	0	0	0	0	0	11
16	2	0	0	0	0	0	0	18
43	3	1	0	0	0	0	1	48
11	0	0	0	0	0	0	0	11
14	1	1	0	1	0	0	0	17
10	0	0	0	0	0	0	0	10
11	2	0	0	0	0	0	0	13
46	3	1	0	1	0	0	0	51
14	1	0	0	0	0	0	0	15
19	1	0	0	0	0	0	0	20
16	0	0	0	0	0	0	0	16
16	2	0	0	0	0	0	0	18
65	4	0	0	0	0	0	0	69
52	10	0	0	0	0	0	0	62
26	1	1	0	1	0	0	0	29
13	2	0	0	0	0	0	0	15
22	0	0	0	0	0	0	0	22
113	13	1	0	1	0	0	0	128
64	8	1	0	0	0	0	0	73
39	8	0	1	0	0	0	0	48
39	2	3	0	0	0	0	0	44
63	5	0	0	0	0	0	0	68
205	23	4	1	0	0	0	0	233
47	1	0	0	0	0	0	0	48
42	10	0	0	0	0	0	0	52
22	3	0	0	0	0	0	0	25
34	3	0	0	0	0	0	0	37
145	17	0	0	0	0	0	0	162
35	2	0	0	0	0	0	0	37
17	0	0	0	0	0	0	0	17
4	1	0	0	0	0	0	0	5
6	1	0	0	0	0	0	0	7
62	4	0	0	0	0	0	0	66
958	83	11	1	4	0	2	1059	

91
21
16
23
30
90
24
27
26
45
122
38
42
20
33
133
34
44
49
41
168
96
67
53
74
290
103
75
70
97
345
89
77
58
67
291
67
46
18
29
160
2159

DESTINATION SUMMARY

	Destination : Arm A Saint.Margaret's Road(ESE)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
7:00	1	0	0	0	0	0	0	1
7:15	2	0	0	0	0	0	0	2
7:30	11	2	1	0	0	0	0	14
7:45	12	2	0	0	0	0	0	14
1 Hr	26	4	1	0	0	0	0	31
8:00	13	0	0	0	0	0	0	13
8:15	17	0	0	0	0	0	0	17
8:30	32	1	2	0	0	0	1	36

	Destination : Arm B Millwood							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0
	2	0	0	0	0	0	0	2
	2	0	0	0	0	0	0	2
	2	0	0	0	0	0	0	2

	Destination : Arm C Saint.Margaret's Road(WNW)							Total
	Car	LGV	OGV1	OGV2	PSV	MC	PC	
	0	0	0	0	0	0	0	0
	5	1	0	0	0	0	0	6
	8	0	0	0	0	0	1	9
	4	0	1	0	0	0	0	5
	17	1	1	0	0	0	1	20
	13	0	0	0	0	0	0	13
	16	3	0	0	2	0	0	21
	36	5	0	0	2	0	1	44

Dest Totals
1
8
23
19
51
28
40
82

8:45	52	0	0	0	0	0	1	53
1 Hr	114	1	2	0	0	0	2	119
9:00	26	1	1	0	0	0	0	28
9:15	16	2	0	0	0	0	0	18
9:30	13	1	0	0	0	0	0	14
9:45	13	1	0	0	0	0	0	14
1 Hr	68	5	1	0	0	0	0	74
10:00	4	2	0	0	0	0	0	6
10:15	7	1	0	0	0	0	0	8
10:30	11	0	0	0	0	0	0	11
10:45	11	2	0	0	0	0	0	13
1 Hr	33	5	0	0	0	0	0	38
11:00	8	2	0	0	2	0	0	12
11:15	6	0	0	0	0	0	0	6
11:30	15	0	0	0	0	0	0	15
11:45	12	1	0	0	0	0	0	13
1 Hr	41	3	0	0	2	0	0	46
12:00	8	1	0	0	0	0	1	10
12:15	7	0	1	0	0	0	0	8
12:30	12	0	0	0	0	0	0	12
12:45	18	2	0	0	0	0	0	20
1 Hr	45	3	1	0	0	0	1	50
13:00	11	0	0	0	0	0	1	12
13:15	16	1	1	0	1	0	0	19
13:30	9	0	0	0	0	0	0	9
13:45	12	2	0	0	0	0	1	15
1 Hr	48	3	1	0	1	0	2	55
14:00	15	1	0	0	0	0	1	17
14:15	18	1	0	0	0	0	0	19
14:30	17	0	0	0	0	0	0	17
14:45	15	1	0	0	0	0	0	16
1 Hr	65	3	0	0	0	0	1	69
15:00	53	10	0	0	0	0	0	63
15:15	24	1	1	0	1	0	0	27
15:30	12	3	0	0	0	0	0	15
15:45	23	0	0	0	0	0	0	23
1 Hr	112	14	1	0	1	0	0	128
16:00	60	8	1	0	0	0	0	69
16:15	39	8	0	1	0	0	0	48
16:30	37	2	3	0	0	0	0	42
16:45	61	5	0	0	0	0	0	66
1 Hr	197	23	4	1	0	0	0	225
17:00	49	1	0	0	0	0	0	50
17:15	42	10	0	0	0	0	0	52
17:30	23	3	0	0	0	0	0	26
17:45	35	3	0	0	0	0	0	38
1 Hr	149	17	0	0	0	0	0	166
18:00	36	2	0	0	0	0	0	38
18:15	18	0	0	0	0	0	0	18
18:30	5	1	0	0	0	0	0	6
18:45	8	1	0	0	0	0	0	9
1 Hr	67	4	0	0	0	0	0	71

Total	965	85	11	1	4	0	6	1072
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1	0	0	0	0	0	0	0	1
7	0	0	0	0	0	0	0	7
2	0	0	0	0	0	0	0	2
2	1	0	0	0	0	0	0	3
3	0	0	0	0	0	0	0	3
1	0	0	0	0	0	0	0	1
8	1	0	0	0	0	0	0	9
1	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	5
1	1	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	2
9	1	0	0	0	0	0	0	10
2	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	1
2	0	0	0	0	0	0	0	2
4	0	0	0	0	0	0	0	4
9	0	0	0	0	0	0	0	9
0	1	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	4
1	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	3
8	1	0	0	0	0	0	0	9
1	0	0	0	0	0	0	1	2
2	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	0	2
1	0	0	0	0	0	0	0	1
6	0	0	0	0	0	0	1	7
6	0	0	0	0	0	0	0	6
4	0	0	0	0	0	0	0	4
2	1	0	0	0	0	0	0	3
18	1	0	0	0	0	0	0	19
2	0	0	0	0	0	0	0	2
2	0	0	0	0	0	0	1	3
3	1	0	0	0	0	0	0	4
0	0	0	0	0	0	0	0	0
7	1	0	0	0	0	0	1	9
4	0	0	0	0	0	0	1	5
2	0	0	0	0	0	0	1	3
3	0	0	0	0	0	0	0	3
4	0	0	0	0	0	0	0	4
13	0	0	0	0	0	0	2	15
1	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	3
2	0	0	0	0	0	0	0	2
7	0	0	0	0	0	0	0	7
1	0	0	0	0	0	0	0	1
1	0	0	0	0	0	0	0	1
3	0	0	0	0	0	0	0	3
2	1	0	0	0	0	0	0	3
7	1	0	0	0	0	0	0	8

99	6	0	0	0	0	0	4	109
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51	5	0	0	0	0	0	0	56
116	13	0	0	4	0	1	134	260
31	3	1	0	0	1	0	36	66
17	5	0	0	0	0	0	22	43
6	1	0	0	0	0	0	7	24
9	0	0	0	1	0	0	10	25
63	9	1	0	1	1	0	75	158
8	3	0	0	0	0	0	11	18
5	0	0	0	0	0	0	5	18
10	1	1	0	0	0	0	12	25
14	0	1	0	0	0	0	15	30
37	4	2	0	0	0	0	43	91
7	0	0	0	0	0	0	7	21
8	1	0	0	0	0	0	9	16
5	1	0	0	0	0	0	6	23
13	0	0	0	0	0	0	13	30
33	2	0	0	0	0	0	35	90
13	0	0	0	0	0	0	13	24
10	5	0	0	0	0	0	15	27
12	0	1	0	0	0	0	13	26
22	0	0	0	0	0	0	22	45
57	5	1	0	0	0	0	63	122
23	0	0	0	1	0	0	24	38
21	0	0	0	0	0	0	21	42
9	0	0	0	0	0	0	9	20
15	0	0	0	2	0	0	17	33
68	0	0	0	3	0	0	71	133
10	1	0	0	0	0	0	11	34
18	1	0	0	0	0	0	19	44
25	0	0	0	3	0	0	28	49
22	0	0	0	0	0	0	22	41
75	2	0	0	3	0	0	80	168
27	2	0	0	2	0	0	31	96
33	2	0	0	2	0	0	37	67
28	4	0	0	1	0	1	34	53
43	6	0	0	1	0	1	51	74
131	14	0	0	6	0	2	153	290
29	0	0	0	0	0	0	29	103
22	2	0	0	0	0	0	24	75
23	1	1	0	0	0	0	25	70
25	1	1	0	0	0	0	27	97
99	4	2	0	0	0	0	105	345
33	5	0	0	0	0	0	38	89
20	3	0	0	1	0	0	24	77
26	3	0	0	0	0	0	29	58
25	1	0	0	0	0	1	27	67
104	12	0	0	1	0	1	118	291
26	2	0	0	0	0	0	28	67
26	1	0	0	0	0	0	27	46
9	0	0	0	0	0	0	9	18
17	0	0	0	0	0	0	17	29
78	3	0	0	0	0	0	81	160

878	69	7	0	18	1	5	978	2159
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Cork.

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HQ Tralee,  
Abbey Street,  
Tralee,  
Kerry

Tel: +353 (0) 214840214

E: [info@mhl.ie](mailto:info@mhl.ie)

MHL & Associates Consulting Engineers  
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