QUINTAIN DEVELOPMENTS IRELAND LIMITED

Proposed Residential Development

At

Portmarnock South Phase 1D

Traffic & Transport Assessment

November 2021

BARRY & PARTNERS
consulting engineers

CIVIL • STRUCTURAL • ENVIRONMENTAL • TRANSPORTATION

Document Control Sheet

Client:	Quintain Developments Ireland Limited
Project Title:	Proposed Residential Development at Portmarnock South Phase 1D
Document Title:	Traffic and Transport Assessment
File Name:	21205-JBB-00-XX-RP-T-00202_Traffic_and_Transport_Assessment

Table of Contents ***(incl. Y/N)***	**List of Tables** ***(incl. Y/N)***	**List of Figures** ***(incl. Y/N)***	**Pages of Text** ***(No.)***	**Appendices** ***(No.)***
Y	N	N	55 No.	4 No.

Document Revision				**Document Verification**			
Issue Date *(DD/MM/YY)*	**Revision Code**	**Suitability Code**	**Author** *(Initials)*	**Checker** *(Initials)*	***Reviewer*** *As Per PMP (Initials)*	**Approver** *As Per PMP (Initials)*	**Peer Review** *(Initials or N/A)*
Add hyperlink to Verification Email on PIM Register for each issue							
20/04/2021	P01	S0	AG/GC	GC	CH	JO'B	N/A
10/05/2021	P02	S0	AG/GC	GC	CH	JO'B	N/A
24/11/2021	P03	S0	AG/GC	GC	CH	JO'B	N/A
25/11/2021	P04	S0	AG/GC	GC	CH	JO'B	N/A

Table of Contents

Section 1: INTRODUCTION

1.1 Background

Quintain Developments Ireland Limited are applying for Planning Permission to An Bord Pleanala (ABP) for a residential development at Portmarnock South Phase 1D in the townlands of Drumnigh, Maynetown and Portmarnock, Portmarnock, Co Dublin.

J.B. Barry & Partners Ltd. was engaged to carry out a Traffic and Transport Assessment (TTA) for the development. This TTA will focus on two areas: the Proposed Development (Phase 1D) and the cumulative development of the remainder of the Local Area Plan lands. Phase 1A, St. Marnock Bay, comprising of 101no. residential units and a new access junction off Station Road (western side) and Phase 1B (‘Dún Sí’at St. Marnocks Bay), comprising of 150no. residential units and a new secondary access junction off Station Road (eastern side) have been completed and are fully occupied. In addition, construction has commenced on Phase 1C of St. Marnock Bay, comprising of 153no. residential units, a ‘Local Centre’ with café / restaurant / retail units and a medical / community unit.

The proposed development (Phase 1D) generally comprises: -

- 172no. new housing units (comprising of 57no. four-bedroom houses, 93no. three-bedroom houses, 11no. three-bedroom duplex units and 11no. two-bedroom apartment units).
- Associated roads, footpaths, private driveways, landscaping, site services, SuDS measures and sundry related works.
- A new access road and junction onto Moyne/Mayne Road serving the proposed development.

The envisaged future development on the remainder of the Portmarnock South Local Area Plan lands comprises: -

- c. 507no. new residential units (comprising of three / four-bedroom houses, two / three-bedroom duplex / apartments and one / two / three-bedroom apartments).
- A comprehensive network of internal roads and associated underground utilities and services.
- High level provision of facilities for pedestrians and cyclists within the development.
- Direct high-quality pedestrian/cycle access to and from Portmarnock DART station.

1.2 Consultation and Scoping Study

A series of pre-planning meetings have been held with Fingal County Council (FCC) since 2015 to discuss Phases 1A, 1B and 1C. In addition, a Section 247 meeting was held with FCC on the 11 March 2021 to discuss the subject development (Phase 1D). As part of the application process for previous phases, it was agreed with FCC that the study area would include five junctions surrounding the development;

- Station Road/Drumnigh Road R124 (to the north/west);
- Strand Road/Coast Road/Station Road (to the north/east);
- Moyne Road/Coast Road (to the south/east);
- Drumnigh Road/Moyne Road (to the south/west);
- Balgriffin Park/Balgriffin Cottages/Moyne Road (to the south/west);

These junctions were selected as they are considered the junctions most likely to be affected by traffic associated with the proposed development.

1.3 Objectives

This report provides an assessment of the potential traffic impacts associated with both Phase 1D of the development and the Entire Development. In this regard, the assessment aims to:

- Identify the existing environment in terms of traffic and transportation;
- Quantify the likely vehicle traffic flows to and from the development and to the surrounding road network;
- Identify and quantify the likely traffic impacts on the surrounding road network resulting from the development;
- Identify any potential safety issues, in particular impacts on vulnerable road users in the study area;
- Identify parking requirements;
- Identify suitable measures to mitigate traffic and transportation impacts, if any, associated directly with the development.

The assessment is based on the findings of site visits, traffic observations, on-site traffic counts, architectural plans, and consultations with the Design Team.

1.4 Methodology

The methodology adopted for this report is summarised as follows:

- Reference was made to site layout drawings issued by the project architect and the proposed plans for the site;
- Historical traffic surveys were obtained at the junctions most likely to be impacted by the proposed development;
- Proposed access arrangements for the development onto the surrounding road network were considered;
- The traffic survey locations and survey times were selected so as to best reflect the likely traffic generation to and from the subject development, particularly at proposed site access/egress points;
- The junctions considered to be most likely to be impacted upon by traffic movements associated with the proposed development were assessed in terms of capacity and road safety.

In preparing this assessment, reference has been made to the following documents:

- NRA (TII) Traffic and Transport Assessment Guidelines;
- TII Publications Project Appraisal Guidelines for National Roads document 'Unit 5.3 Travel Demand Projections;
- Design Manual for Urban Roads and Streets (DMURS);
- South Fingal Transport Study (2012);
- South Fingal Transport Study (2019);
- Portmarnock South Local Area Plan (2013);
- Fingal County Development Plan 2017-2023;

Section 2: RECEIVING ENVIRONMENT

2.1 Site Location

Figure 1a – Site Location Plan (source Google Maps 2021, annotation by J.B. Barry)

The site for the proposed residential development (Phase 1D and the Entire Phase 1 Development, as defined in Figure 1 below) is on lands north of Moyne Road and south of Station Road, east of the Dublin-Belfast/ (DART) Railway Line, and to the west of the Coast Road. The northern frontage of the site onto Station Road currently provides access to the external road network. Fingal County Development Plan 2017-2023 contains an objective to upgrade both Moyne Road and Station Road in the future. The Portmarnock South LAP provides for access to the development from Station Road and Moyne Road.

Coast Road runs along the eastern side of the proposed development in a north south direction from its junction with Station Road to the north and to Moyne Road to the south.

Portmarnock DART station is situated to the northwest of the site with direct access off Station Road. The rail line runs along the western boundary of the site. Further lands zoned for development lie to the west of the Dublin-Belfast / (DART) Railway Line in the vicinity of the site. See **Figure 1b Site Location Plan** below:

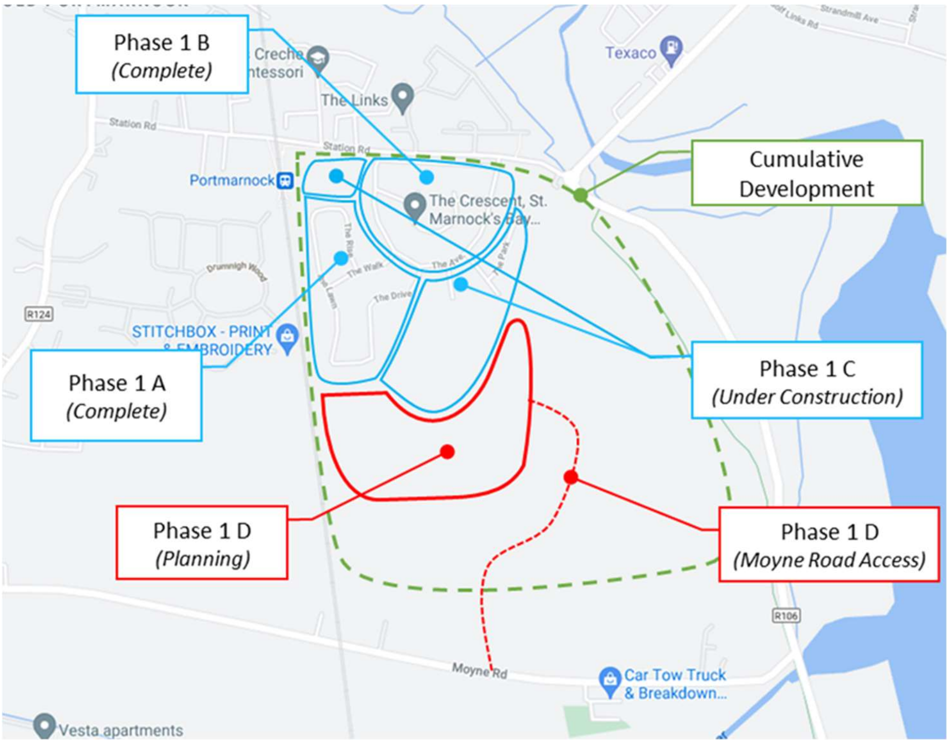


Figure 1b – Site Location Plan (source Google Maps 2021, annotation by J.B. Barry)

2.2 Local Road Network

The subject site for the proposed development is located south of Station Road and north of Moyne Road in Portmarnock. Station Road is a bi-directional two-lane distributor road. In the vicinity of the site, Station Road has a road pavement width of approximately 5.5 to 6.0 metres. To the west of the site along the DART station northern boundary, the road (upgraded in 2013 as part of the Station Road rail overbridge scheme) has a carriageway width of 6.4 metres and footpaths provided on both sides of the road. A signalised pedestrian crossing was also installed as part of the scheme at a pedestrian access to the DART station from Station Road. Moyne Road (R123) is a bi-directional two-lane distributor road and has a road pavement width of approximately 6.0 to 6.5 metres. A pedestrian footpath is partially present along the northern side of Moyne Road, but no pedestrian footpath exists along the southern side.

The proposed development will be served by three new priority-controlled junctions providing direct access from the external road network. Two of these junctions are on Station Road and one on Moyne Road. One of the access junctions on Station Road, 180m east of the Dart station has been constructed as part of Phase 1A and is currently in use by the residents of Phase 1A and Phase 1B. The other access junction on Station Road, 450m east of the DART Station was completed as part of the Phase 1B development. This secondary access is also used for construction access at present but will revert to residential and general public once construction traffic is able to use the recently approved haul road access onto Moyne Road.

See **Figures 2 to 4** following for photographs images of Station Road and Moyne Road as it currently exists past the subject site and the new access.

Figure 2: Station Road looking west towards the DART Station

Figure 3: New Access looking from Station Road

Figure 4: Moyne Road R123 looking East (Source Google Maps)

The following road works are taking place in the vicinity of the proposed development, however as noted below, the majority of these will be completed prior to envisaged start date (Apr 2022 subject to approval) on site for this proposed development;

- Hole in the Wall/Mayne Road Junction Upgrade; Substantially Complete Nov-Dec 2021
- Coast Road/Station Road Junction Upgrade; Works Jan to March 2022
- Druimnigh Road/Station Road Junction Improvements; Works Jan to March 2022
- Irish Watermain Replacement at Malahide Road; Ongoing – envisaged mid 2022
- Various Development Boundary Works along Malahide Road near Balgriffin Cottages; Substantially Complete (with the exception of Belcamp) Nov 2021.

2.3 Public Transport

Existing Public Transport

The subject site and surrounding lands are currently very well serviced by public transport.

The DART rail line lies immediately to the west of the site and provides DART and suburban rail services to Malahide and the city centre from Portmarnock Station which is located to the north-west of the site. Other DART stations are also located nearby at Malahide to the north and Clongriffin to the south.

The nearest Dublin Bus scheduled services operate generally to and from Dublin city centre and along the Strand Road to Portmarnock and Malahide. These include the following services:

- 32 From Talbot St. to Malahide;
- 32x From Malahide towards UCD Belfield;
- 102 Sutton Station to Dublin Airport;
- 42d Portmarnock to DCU;

Phase 1 of the new BusConnects network launched on 27th June with the introduction of H-Spine (H1, H2, H3, H9) and Route 6 (all operated by Dublin Bus). The following BusConnects Routes currently service the study area:

- H2- Malahide to City Centre

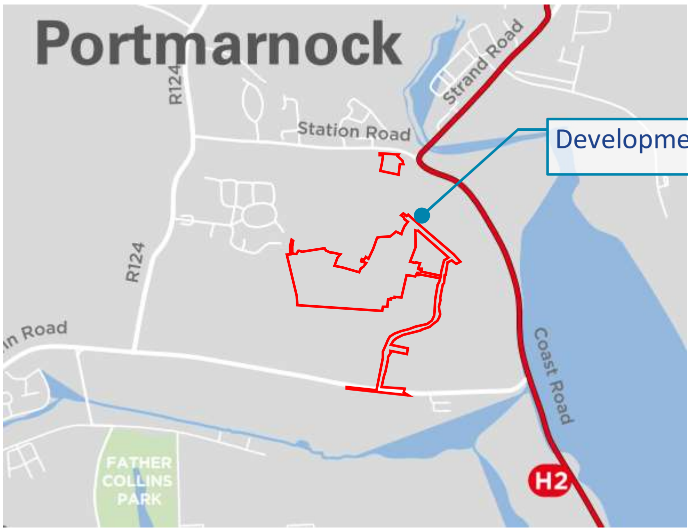


Figure 5a: Phase 1 of the new BusConnects network as per www.busconnects.ie.

Proposed Public Transport

Dublin Bus propose to upgrade their service to the study area by way of the Dublin Bus Connects project. Figure 5b taken from the latest Bus Connects proposal illustrates proposed new routes in the vicinity of the proposed development and includes the "H2 Bus Route", which is the Malahide to City Centre Core Bus Corridor. In addition, the scheme will include the L81 from Malahide to Abbey Street via Portmarnock and the X78 to UCD via the city centre.

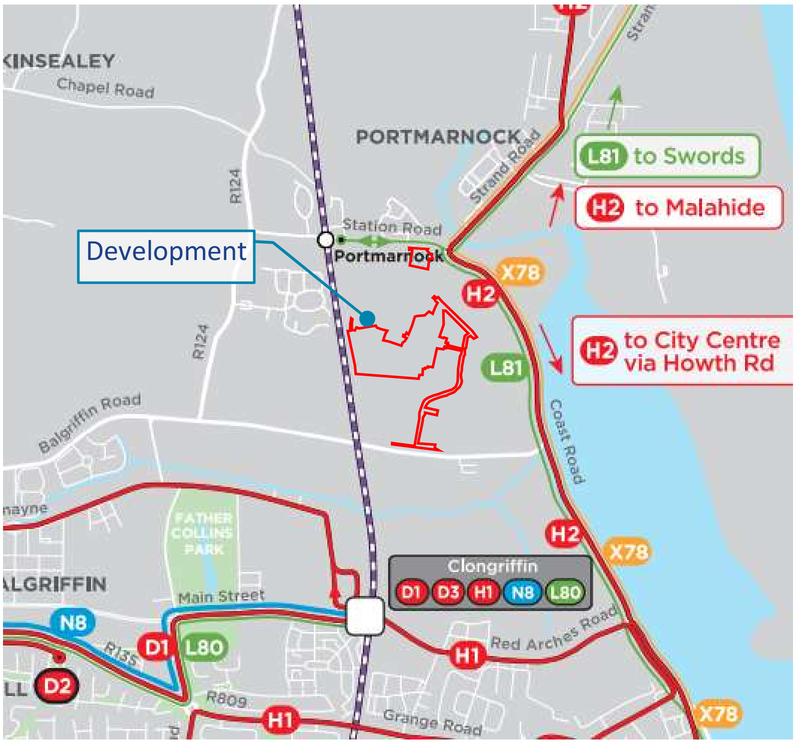


Figure 5b: Bus Connects Portmarnock

Section 3: BASE YEAR 2021 – TRAFFIC VOLUMES & CAPACITY

3.1 Traffic Survey

In order to determine current traffic behaviour in the vicinity of the subject site, a vehicle turning movement survey was obtained at the five junctions near the subject site (See Figure 6); Due to the current Covid-19 restrictions, traffic in the surrounding area is considerably less than usual and it was therefore agreed that historical traffic counts would be used for each junction. The historical traffic counts were taken from a previous application Phase 1C in 2019;

- Site 1- Junction 1) Station Road/Drumnigh Road R124 (to the north/west);
- Site 2- Junction 2) Strand Road/Coast Road/Station Road (to the north/east);
- Site 3- Junction 3) Moyne Road/Coast Road (to the south/east);
- Site 4- Junction 4) Drumnigh Road/Moyne Road (to the south/west);
- Site 5- Junction 5) Balgriffin Park/Balgriffin Cottages/Moyne Road (to the south/west);

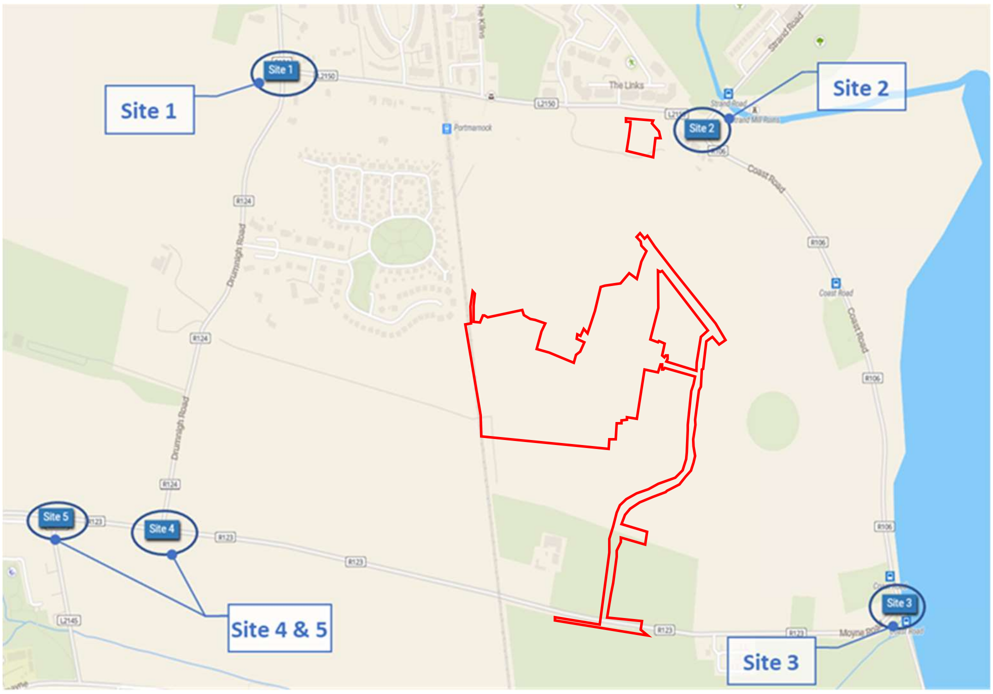


Figure 6: Traffic Count Locations (Source- IDASO)

The counts captured all turning movements at these junctions. The vehicle turning movement surveys were undertaken on Tuesday 26th February 2019. The counts were carried out over the 12-hour period from 07:00 hours to 19:00 hours including both the morning and evening peak periods. Data was collected in 15-minute intervals.

The morning peak hour was identified as 08:00-09:00 for all junctions. The evening peak hour was identified as 17:00-18:00 for the three western junctions; Site 1, Site 4 and Site 5. The eastern junctions Site 2 and Site 3 had evening peak hours of 16:00-17:00. A full transcription of the turning movement survey is included in **Appendix 2** herein.

The morning peak hour of 08:00 to 09:00 hours was observed to be marginally more intense than the evening peak hour. It is noted that the peak hours over the evening period generally stretched over a longer period of time of three hours (16:00 to 19:00), rather than an hour and a half during the morning peak hour (07:44 to 09:15). In order to carry out a robust traffic analysis of the surrounding road network, the traffic modelling exercise following herein will be based on traffic flows recorded for both the weekday morning and evening peak hours for each junction.

The 2019 traffic survey at all junctions were factored up to 2021 figures to ensure consistency across all junctions. Traffic flows were factored up in accordance with Table 5.3.2 of Transport Infrastructure Ireland publication, Project Appraisal Guidelines. The medium growth rate factors were used.

A summary of the 2021 factored up vehicle turning movement surveys for the morning and evening peak hour periods is shown in **Figures 7 and 8** below.

Figure 7: Morning Peak Hour 2021

Figure 8: Evening Peak Hour 2021

3.2 Junction Capacity Assessment for Base Year 2021

A traffic capacity assessment of the five junctions in the vicinity of the subject site was undertaken utilising the surveyed results shown in Figures 7 and 8 above and TRL's PICADY & ARCADY traffic modelling software. A summary of the results of the analysis of Junction 1) Station Road/ Drumnigh Road R124 for the morning and evening peak hours is shown in Tables 1 following.

Table 1: Junction 1) Station Road/Drumnigh Road R124

Base Year 2021

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Drumnigh Road R124 North	0	0	0	0	0	0
Station Road	0.85	1.10	5	28	62	236
Drumnigh Road R124 South	0.54	0.56	2	2	12	12

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. Table 1 demonstrates that Junction 1 Station Road/ Drumnigh Road R124 currently operates over the normal design threshold during the evening peak hour considered. It is evident that the Station Road arm is exceeding capacity with delays and queuing for motorists in the evening peak hour. During the morning peak hour, the Station Road arm has reached the normal design threshold 0.85 with delays and queuing beginning to form.

Due to the current Covid-19 restrictions, there is less traffic in the area and therefore difficult to say that this analysis concurs with observations made on site at this moment. However, the analysis concurs with observations made pre Covid restrictions while working on previous developments in the area, as queuing was apparent at the junction.

A summary of the results of the analysis of Junction 2) Strand Road/Coast Road/Station Road for the morning and evening peak hours is shown in Table 2 following.

Table 2: Junction 2) Strand Road/Coast Road/Station Road

Base Year 2021

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Strand Road	0.66	0.48	2	1	10	5
Coast Road	0.45	0.77	1	3	8	18
Station Road	0.84	0.71	5	2	31	19

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a roundabout junction. Table 2 demonstrates that the Junction 2) Strand Road/Coast Road/Station Road currently operates just within the normal design threshold during the morning and evening peak hours considered. However, the junction is nearing capacity with minor queues and delays for motorists beginning to form.

Due to the current Covid-19 restrictions, there is less traffic in the area and therefore difficult to say that this analysis concurs with observations made on site at this moment. However, the analysis concurs with observations made pre Covid restrictions while working on previous developments in the area, as queuing was apparent at the junction.

A summary of the results of the analysis of Junction 3) Moyne Road/Coast Road for the morning and evening peak hours is shown in Table 3 following.

Table 3: Junction 3) Moyne Road/Coast Road

Base Year 2021

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Coast Road South	0	0	0	0	0	0
Moyne Road	0.67	0.59	2	2	30	25
Coast Road North	0.59	0.38	3	1	9	8

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 3 demonstrates that the Junction 3) Moyne Road/Coast Road currently operates within the normal design threshold during the morning and evening peak hours considered. The analysis concurs with observations made pre Covid restrictions while working on previous developments in the area, as no queuing was observed at the junction.

A summary of the results of the analysis of Junction 4) Drumnigh Road/Moyne Road and Junction 5) Balgriffin Park/Balgriffin Cottages/Moyne Road for the morning and evening peak hours is shown in Tables 4 and 5 following.

Table 4: Junction 4) Drumnigh Road/Moyne Road

Base Year 2021

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Moyne Road West	0	0	0	0	0	0
Drumnigh Road	0.89	0.79	6	3	72	43
Moyne Road East	0.09	0.09	0	0	5	6

Table 5: Junction 5) Balgriffin Park/Balgriffin Cottages/Moyne Road

Base Year 2021

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Moyne Road East	0	0	0	0	0	0
Balgriffin Park	0.82	0.86	4	5	53	54
Moyne Road West	0.49	0.00	2	0	9	6

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. Tables 4 and 5 demonstrate that Junction 4 (Drumnigh Road/Moyne Road) currently operates just above the normal design threshold during the morning peak hour, while Junction 5 (Balgriffin Park/Balgriffin Cottages/Moyne Road) currently operates just above the normal design threshold during the evening peak hour. It is noted that both junctions are marginally above the threshold with no significant delays for motorists. The analysis concurs with observations made pre Covid restrictions while working on previous developments in the area, as no queuing was observed at the junction.

Section 4: ACCESS ARRANGEMENTS & CONNECTIVITY

4.1 Access Arrangements

The entire development will be served by three new priority controlled junctions providing direct access from the external road network. Two of these junctions are on Station Road and one on Moyne Road. The two priority controlled junctions on Station Road are situated 250m apart. The western junction of the two will provide the main access to the development and includes a right turning lane into the development. The priority junction on Moyne Road is proposed as part of this Phase 1D of the development.

4.2 Sustainable Transport and Connectivity

The principle of providing sustainable transport which is embodied in the Portmarnock South Local Area Plan will be given physical expression in the proposed development. The form and structure of the proposed development will encourage the use of public transport, cycling and walking in preference to the private car. Measures that will be taken to secure this include the provision of:

- A network of segregated combined cycle and footpath routes through the development including along the Primary Link road, the Townland boundaries and a circular route which will connect homes to the DART station, commercial area and open space;
- A network of footpaths that will permeate the residential area and provide a high degree of accessibility to local facilities and to bus and rail transport.

Within the general context of promoting a sustainable transport system, the road network designed in accordance with DMURs to cater for the development is described as follows.

- Primary Link Road: This will be the main traffic artery for the proposed development. It will run from the main Station Road western access in the north to Moyne Road access in the south and will have a design speed of 30kph. The road will be 6.5 metres wide. A 3 - 4 metre wide shared surface will be provided along most of the road and will link with the proposed walking/cycling route in the open space lands to the south of the development.
- Secondary Road and Access Roads: These roads will assist with the dispersal of traffic from the Primary Link Road to the main part of the residential area. They will range from 4.8 meters to 6 metres in width and will have a design speed of 30kph by means of speed restraint measures such as short road lengths, horizontal deflections, priority road crossings, gateway platforms, etc. Footpath of 2 metres in width will be provided on each side of the carriageway.

The proposed development will be designed with pedestrians and cyclists needs at the forefront rather than motorists. Vehicle speeds will be restricted to 30kph throughout the development. This will create a congenial and safe environment for pedestrians and cyclists.

In addition, a perimeter route will be provided combining a cycleway and footpath around the entire development. The main function of this perimeter route is to provide an attractive leisure route for residents which will give access to the recreation facilities in the open space/parkland, to the Fingal Coastal Walking/Cycling route and from there to the surrounding footpath and cycleway network. The combined footpath and cycle routes will be 4 metres in width and paved with a durable surface such as tar macadam. The separation between pedestrians and cyclists will be defined by a tactile white line.

A short link will be provided between the Local Centre to the northwest of the development connecting pedestrians with the DART station.

Section 5: TRIP GENERATION & ASSIGNMENT- PHASE 1D

5.1 Trip Generation: Phase 1D

The Trip Rate Information Computer System (TRICS) database was interrogated to derive the potential development trip generation rates. Utilising data supplied by the TRICS database, **Table 6** details the estimated trip generation for the proposed Phase 1D residential development during the morning and evening peak hours being considered for this study. The TRICS morning and evening peak hours were 08:00 to 09:00 and 17:00 to 18:00 respectively. The trips generated during these times were added to the morning and evening peak hours for the road network. The full TRICS output files are contained in **Appendix 3**.

Furthermore, it is noted that the 303 units and Local Centre of Phase 1B and 1C will be fully finished and occupied over the next few years, therefore the trips generated from phase 1B and 1C will be included in both the "with" and "without" development scenarios. This is because if the Phase 1D development is not built, the trips generated by Phase 1B and 1C will still apply. **Table 7** details the estimated trip generation for the Phase 1B and 1C developments taken from the previous planning applications for these phases.

As the Phase 1D development is made up of substantially 3/4-bedroom houses, the trip rates were calculated "per unit". As the residential part of the Phase 1B and 1C development includes a mix of 3/4-bedroom houses and 2/3-bedroom duplex/apartments, the trip rates were calculated "per bedroom", in order to get a more accurate result. The full TRICS output files are contained in Appendix 3.

5.2 Modal Split: Phase 1D

When estimating trip generation for a residential development using TRICS the trip rate for car drivers accounts for a 65-70% modal split. This is in line with the national average modal split as well as the modal split at a location with a Public Transport Accessibility Level (PTAL) [1] of 1 (see South Fingal Transport Study 2012: Section 5). As the Portmarnock South development has a PTAL of 4 (see South Fingal Transport Study 2012: Section 5), we propose to use the PTAL 4 modal split of 41% for car drivers. The South Fingal Transport Study 2019 does not reference "Public Transport Accessibility Level"; therefore the 2012 study is referenced.

This trip attenuation will more accurately reflect the trip generation of the development due to its proximity to the Dart station and improved cycle facilities in the area. It is also in line with the Portmarnock South LAPs strategy to promote and encourage sustainable transport. In order to produce a robust, conservative scenario, a tolerance of 5% will be added to the modal split in order to bring it up 46% of car drivers.

The majority of trips generated by the Local Centre will likely come from within the St. Marnock's Bay development and neighbouring developments without passing through Junctions 1 to 5. The trips will most likely form part of the residential trips (ie. the people using the Local will live within the St Marnock's Bay, rather than the surrounding Portmarnock/Clongriffin/Malahide area). However, to produce a robust,

[1] *A Public Transport Accessibility Level (PTAL) is defined as a numerical value which determines the quality of access to public transport from a particular location. The value is based on the proximity to a service, the frequency of the service, and the nature of the service. Portmarnock South has a PTAL of 4 due to the proximity of the DART and Bus.*

conservative scenario, it will be assumed that half of the trips generated by the local centre will be generated from outside the area immediately adjacent the development.

Utilising data supplied by the TRICS database including trip attenuation principles, **Table 6 and 7** following details the estimated trip generation for the development phases and Local Centre during the morning and evening peak hours being considered for this study. The full TRICS output files are contained in **Appendix 3**.

Table 6: TRICS Trip Generation Phase 1D Development

	Time	**Factor**	**TRICS Arrival Rate**	**TRICS Departure Rate**	**Hourly Trips** *(PTAL area of 1, 65% modal split)*		**Attenuated Hourly Trips** *(PTAL area of 4, 46% modal split)*	
					Trips In	**Trips Out**	**Trips In**	**Trips Out**
Phase 1D Housing Development 172 Units	**Morning Peak Hour**	172 Units	0.138 *(per unit)*	0.361 *(per unit)*	24	62	**17**	**44**
	Evening Peak Hour		0.340 *(per unit)*	0.165 *(per unit)*	59	28	**42**	**20**

Table 7: TRICS Trip Generation Phases 1B and 1C Development

	Time	Factor	TRICS Arrival Rate	TRICS Departure Rate	Hourly Trips (PTAL area of 1, 65% modal split)		Attenuated Hourly Trips (PTAL area of 4, 46% modal split)	
					Trips In	Trips Out	Trips In	Trips Out
Phase 1B Housing Development 150 Units	**Morning Peak Hour**	472 Bedrooms	0.040 (per bedroom)	0.118 (per bedroom)	19	56	**13**	**40**
	Evening Peak Hour		0.103 (per bedroom)	0.055 (per bedroom)	49	26	**35**	**18**
Phase 1C Housing Development 153 Units	**Morning Peak Hour**	468 Bedrooms	0.040 (per bedroom)	0.118 (per bedroom)	19	55	**13**	**39**
	Evening Peak Hour		0.103 (per bedroom)	0.055 (per bedroom)	48	26	**34**	**18**
Local Centre: Retail and Café	**Morning Peak Hour**	443.8m²	4.661 (per 100m²)	4.318 (per 100m²)	21	19	**11**	**10**
	Evening Peak Hour		6.874 (per 100m²)	7.345 (per 100m²)	31	33	**16**	**17**
Medical / Community Unit	**Morning Peak Hour**	86.9m²	3.062 (per 100m²)	1.533 (per 100m²)	3	1	**2**	**1**
	Evening Peak Hour		1.257 (per 100m²)	2.129 (per 100m²)	1	2	**1**	**1**
TOTAL	**Morning Peak Hour**	-	-	-	**-**	**-**	**39**	**90**
	Evening Peak Hour		-	-	**-**	**-**	**86**	**54**

5.3 Trip Distribution

During the "without" development scenarios, the only access to the development will be from Station Road to the north. Therefore, 100% of trips generated from Phase 1B and 1C will come and go from the accesses at Station Road (via Junctions 1 and 2). However, during the "with" Phase 1D development scenario, the new primary access road onto Moyne Road will be constructed. This new access going south onto Moyne Road will likely cater for the majority of Phase 1D trips c. 80% will travel south. The new southern access will also cater for a number of Phase 1B and 1C trips, with at least 50% now likely to travel south. The 80% / 20% for Phase 1 D and 50% / 50% splits for Phase 1B and 1C is an estimate derived from the existing traffic flows traveling north and south at each junction and the location of each phase within the overall development itself.

In reality, due to the existing congested nature of Junction 1 and Junction 2 each side of Station Road, the traffic generated from the proposed development will likely pre-sort within the development itself to avoid locations of congestion or travel before/after the peak times thus further reducing the volume of traffic on Station Rd.

It was assumed for the purposes of this study that the future development traffic will mirror existing travel flows when exiting and entering the development. The existing traffic from the Phase 1A development was analysed in the morning and evening peak hours. Currently the traffic from the existing Phase 1A leaving the development, during the morning and evening peak, 60% will travel east towards the Coast Road/Strand Road junction, while the remaining 40% will travel west towards the Drumnigh Road R124 junction. Currently the traffic on Moyne Road, during the morning peak, 50% will travel west towards the Balgriffin junction (Hole in Wall Road realignment junction), while the other 50% will travel east towards the Coast Road junction.

The future development traffic distribution at the surrounding junctions will also mirror existing traffic patterns i.e. development generated flows will be split through the junction proportionally to existing flows.

5.4 Assessment Years Phase 1D

It is estimated that if planning permission is granted for the proposed development in c. Q1 2022. The proposed development will take a 24-month construction period, therefore it is estimated that the proposed development will be fully operational by the end of 2023 / start of 2024.

Assuming planning permission is granted for the Phase 1D development in c. Q3 2021, and allowing for a 24-month construction period, it is estimated that the proposed development will be fully operational by the end of 2023. For the purpose of this study, we will therefore take 2023 as the Year of Opening. Consequently, traffic analysis associated with this study will focus on the following future development operational scenarios:

- Phase 1D Residential Development Year of Opening – 2023
- 15 Year Design Horizon[2] – 2038

The projected 2023, 2038 traffic flows have been calculated by factoring up the 2019 recorded traffic flows in accordance with the TII Publications Project Appraisal Guidelines for National Roads document 'Unit 5.3 Travel Demand Projections, Table 5.3.2: Link-Based Growth Rates: Annual Growth Factors. The medium growth rate factors have been utilised.

Figures 10 and 11 illustrate the **2023 Year of Opening** for the "without" and "with" development scenarios for morning and evening peaks. **Figures 12 and 13** illustrate the **2038 Design Year Horizon** for the "without" and "with" development scenarios for morning and evening peaks.

In order to produce a robust assessment, Section 8 will analyse the traffic impact of the entire development when completed by the 15 year design horizon of 2038.

5.5 Junction Upgrades

The Hole in the Wall Road realignment project, as noted earlier is substantially complete. The project replaced Junction 5: Balgriffin Park / Balgriffin Cottages / Moyne Road and Junction 4: Drumnigh Road /

[2] TII (NRA) Traffic and Transport Assessment Guidelines May 2014- Required Modelling Scenario

Moyne Road). This junction upgrade has been completed well in advance of the development year of opening 2023 / 2024. The traffic currently passing through Junction 4: Drumnigh Road and Junction 5: Balgriffin Park will now pass-through Junction H: Hole in the Wall Road.

As part of the previous Phase 1C planning application, An Bord Pleanála attached a condition which required the upgrade of Junction 1: Drumnigh Road (R124) / Station Road and Junction 2: Strand Road / Coast Road / Station Road. (ABP Ref: BD-005047-20 and 305619-19). A meeting was held on 22 August 2019 at the offices of Fingal County Council, Swords in respect of the nature, extent and costs associated with specific off-site road improvements associated with the development as identified by Fingal County Council. Further correspondence was undertaken with FCC throughout 2021 to further discuss changes to the junction upgrades, with an agreed compliance submission issued in August and approved in October 2021. Works are due to commence on site in January 2022.

The junction works agreed upon included upgrading Junction 1: Drumnigh Road (R124) / Station Road with traffic calming measures and changes to the kerb lines. It also included upgrading Junction 2: Strand Road / Coast Road / Station Road from a mini roundabout into a signalised junction. The two junction upgrades will improve traffic movements in the area, improve road safety (though to a lesser extent for Junction 1 owing to limited land availability). These junction upgrades will be completed in March 2022 i.e. in advance of the development year of opening 2023/2024 and therefore these upgrades have been included in the following modelling scenarios.

Additionally, permission was granted (F20A/0700 – May 2021) for the construction of a new temporary Haul Road to the south connecting into Moyne Road, to link both the development under construction (1C) and any future phases, until such time as the permanent Access Road to Moyne Road is delivered under this proposed development. This temporary Haul Road will be completed in December 2021. When complete, the new temporary Haul Road (and future Access Road) will allow construction traffic to access the site from the south, minimising the interaction with Phases 1A / B / C, the Station Road junctions and the general public.

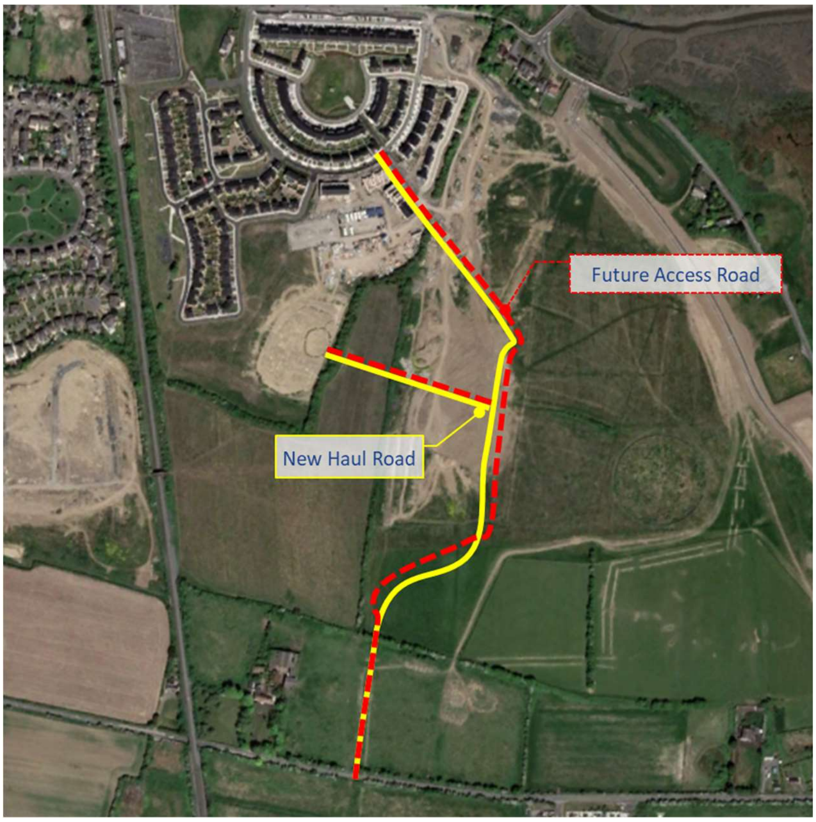


Figure 9: Haul Road and Future Access Road.

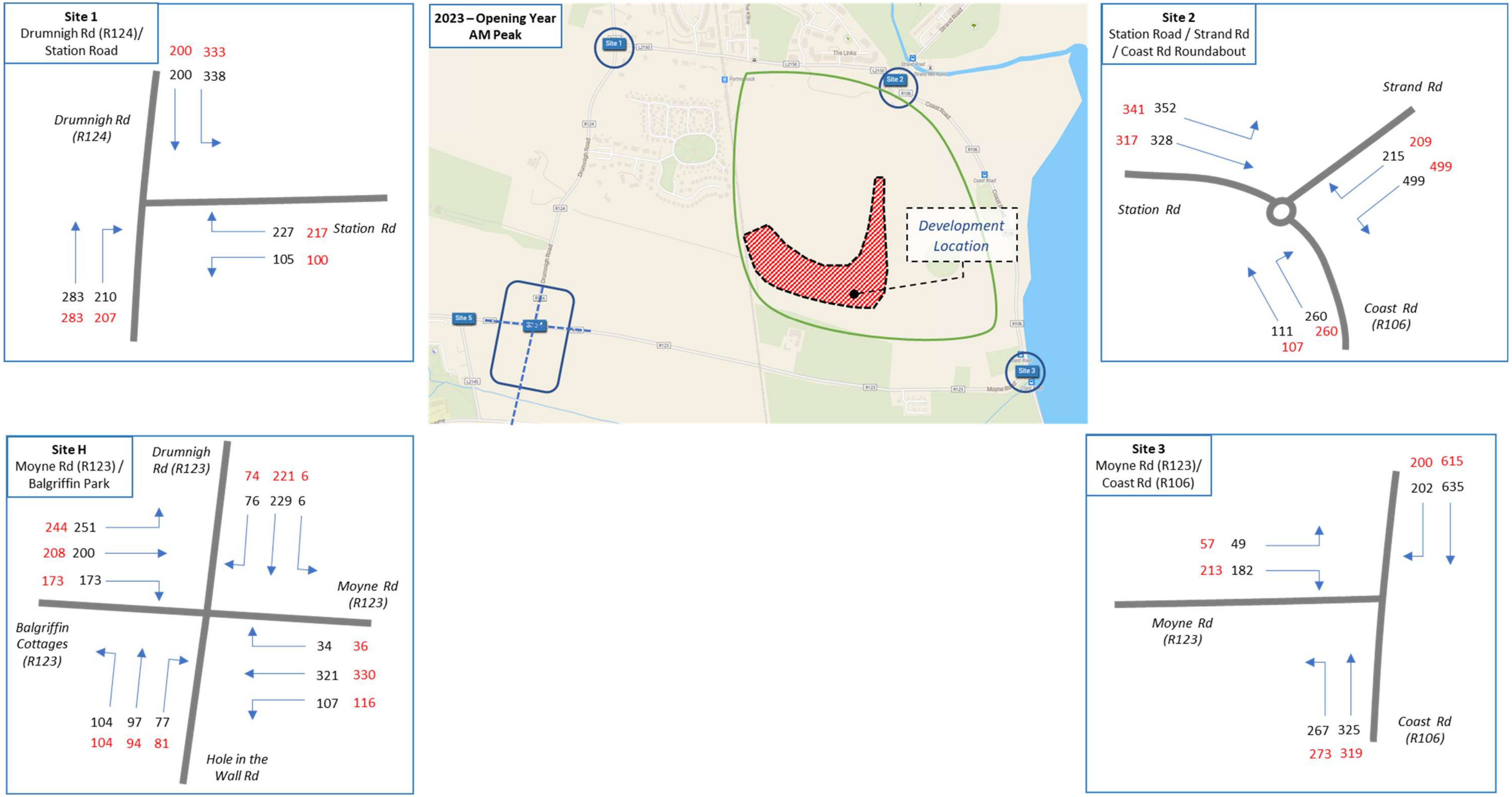


Figure 10: 2023 Morning Peak Hour Phase 1D Opening Year

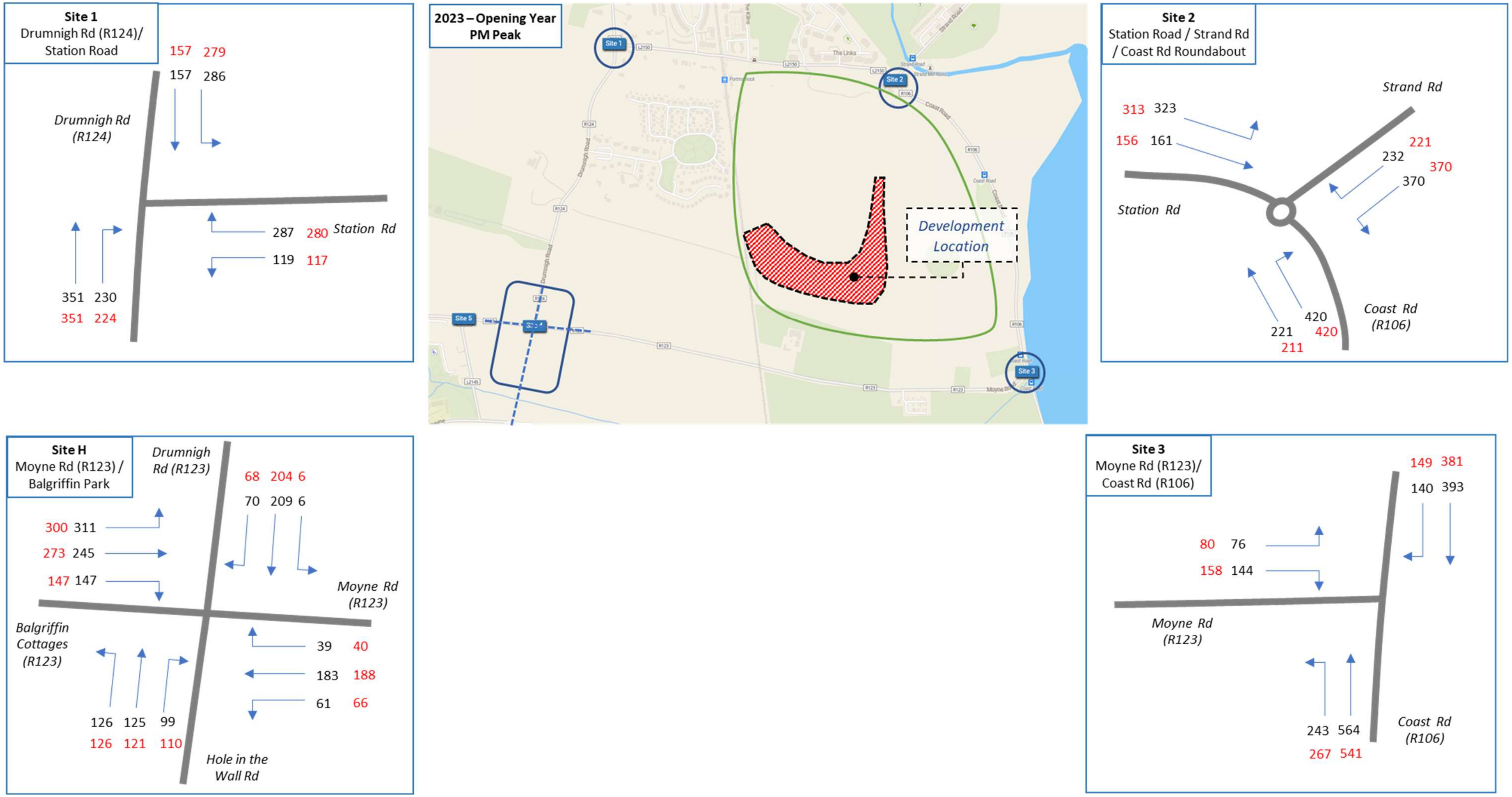


Figure 11: 2023 Evening Peak Hour Phase 1D Opening Year

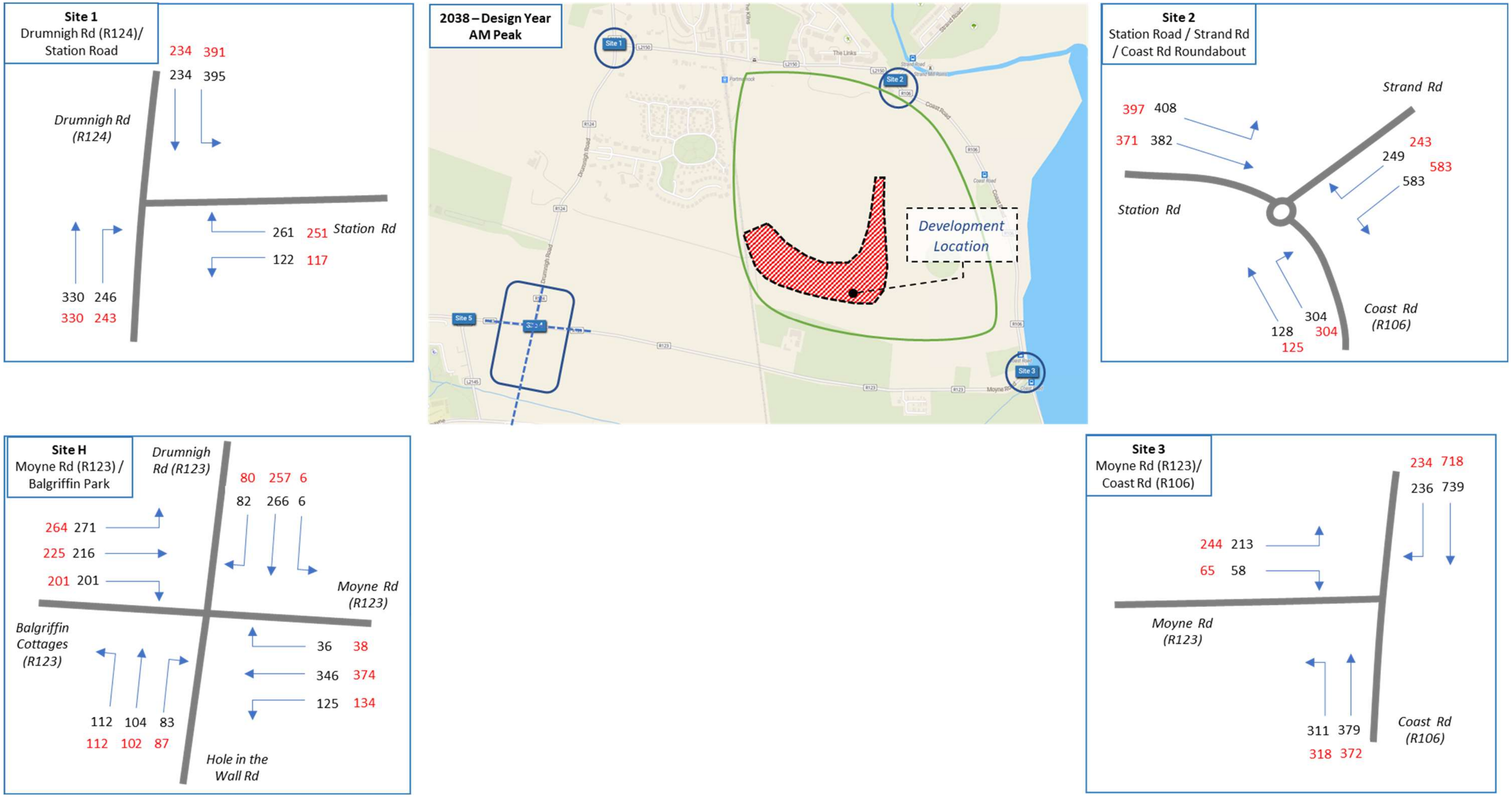


Figure 12: 2038 Morning Peak Hour Phase 1D Design Year

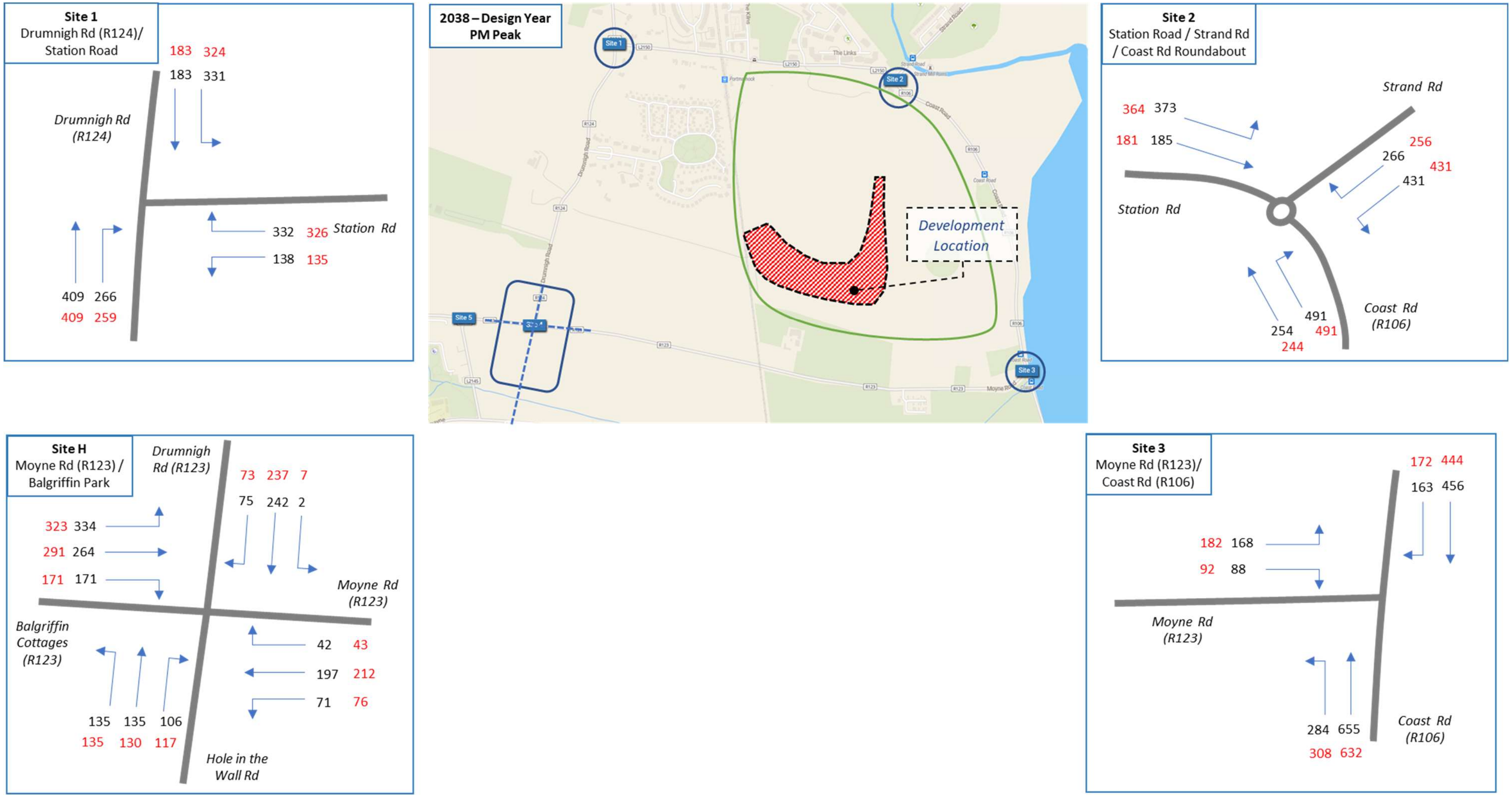


Figure 13: 2038 Evening Peak Hour Phase 1D Design Year

Section 6: TRAFFIC IMPACT- PHASE 1D

6.1 Background

In order to assess the future traffic impact of the proposed development, capacity assessments were undertaken using TRL's PICADY and OSCADY software on the following junctions;

- Junction 1) Station Road/Drumnigh Road R124 (to the north/west);
- Junction 2) Strand Road/Coast Road/Station Road (to the north/east);
- Junction 3) Moyne Road/Coast Road (to the south/east);
- Junction H) Hole in the Wall Road Upgrade (to the south/west)

The junctions were modelled for the 2023 year of Opening and 2038 (15 Year) Design Year for the morning and evening peak hour periods using the flow diagrams shown in **Figures 10 to 13** in Section 5 herein. The modelling scenarios for 2023 and 2038 will include the junction upgrades as outlined in Section 5.5.

To demonstrate the direct traffic impact associated with the proposed residential development on the key junction being considered, the traffic modelling exercise was carried out for the "without" development and "**with**" development scenarios. A sample traffic modelling output file is included in this report in **Appendix 4**.

6.2 Operational Phase 2023 Opening Year Phase 1D

A summary of the results for Junction 1) Station Road/Drumnigh Road R124, 2023 Phase 1D year of opening "without" and "with" the development, morning and evening peak hours is shown in **Tables 8** following. The proposed junction 1 upgrade will have little effect on traffic movements but improve road safety.

Table 8: Junction 1) Station Road/ Drumnigh Road R124

2023 Year of Opening

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Drumnigh Road R124 North	0 0	0 0	0 0	0 0	0 0	0 0
Station Road	1.01 0.96	1.25 1.21	15 10	53 46	149 113	456 381
Drumnigh Road R124 South	0.58 0.57	0.64 0.62	2 2	3 3	14 13	14 14

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. Table 8 demonstrates that Junction 1) Station Road/Drumnigh Road R124 will exceed the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios. This is the case in particular with the Station Road arm during the evening peak hour. The analysis concurs with the observations made in the South Fingal Transport Study (2012) referenced in the Portmarnock South LAP. The study concludes that this junction will undergo capacity issues in the future and recommended that an upgrade of the junction is explored. Once a junction is nearing or at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the proposed Phase 1D development will help the performance of Junction 1. During the "with" Phase 1D development scenario, the new primary access road onto Moyne Road will be constructed. This new access road going south onto Moyne Road will cater for a proportion of trips generated from the 1A, 1B, 1C and 1D developments. A high percentage of these trips will likely travel south avoiding Junction 1 entirely. Due to the existing congested nature of Junction 1, the traffic generated from the proposed development will likely take an alternative route via Moyne Road or travel before/after the peak times thus reducing the impact on the junction. Phase 1D of the St. Marnock's Bay development will have a positive effect on the junction.

A summary of the results for Junction 2) Strand Road/Coast Road/Station Road, 2023 Phase 1D year of opening "without" and "with" the development, morning and evening peak hours is shown in Table 9 following. The proposed Junction 2 upgrade (converting junction from roundabout to signalized as per the condition attached to the grant of planning permission for Phase 1C and as agreed with Fingal County Council) will have a minor effect on traffic movements but improves road safety and provides a safer environment for pedestrians and cyclists.

Table 9: Junction 2) Strand Road/Coast Road/Station Road

2023 Year of Opening

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Strand Road	0.88 0.87	0.76 0.78	16 15	12 12	43 39	33 35
Coast Road	0.44 0.44	0.71 0.67	5 5	8 7	15 14	19 16
Station Road	0.79 0.76	0.53 0.49	10 9	6 5	26 23	14 12

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 9 demonstrates that the Junction 2) Strand Road/Coast Road/Station Road will operate slightly below the normal design threshold during the morning and evening peak hours considered. The junction will still operate below the theoretical capacity of 1.0. This is the case both "without" and "with" the development scenarios with queues and delays for motorists evident.

However, it is clear from the analysis that Phase 1D development will slightly help the performance of Junction 2. During the "with" Phase 1D development scenario, the new primary access road onto Moyne Road will be constructed. This new access road going south onto Moyne Road will cater for a proportion of trips generated from the 1A, 1B, 1C and 1D developments. A high percentage of these trips will likely travel south avoiding Junction 2 entirely. Due to the existing congested nature of Junction 2, the traffic generated from the proposed development will likely take an alternative route via Moyne Road or travel before/after the peak times thus reducing the impact on the junction. Phase 1D of the St. Marnock's Bay development will have a slight positive effect on the junction.

A summary of the results for Junction 3) Moyne Road/Coast Road, 2023 Phase 1D year of opening "without" and "with" the development, morning and evening peak hours is shown in Table 10 following.

Table 10: Junction 3) R123 Moyne Road/R106 Coast Road

2023 Year of Opening

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Coast Road South	0 0	0 0	0 0	0 0	0 0	0 0
Moyne Road	0.74 0.84	0.66 0.71	3 5	2 3	43 65	31 36
Coast Road North	0.67 0.65	0.42 0.44	4 4	1 1	12 11	9 9

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 10 demonstrates that Junction 3) Moyne Road/Coast Road will operate within the normal design threshold during the morning and evening peak hours considered. This was the case both "without" and "with" the development scenarios. It is clear that the traffic generated by the Phase 1D development will have a minor effect on the Moyne Road junction. Additionally, the new southern development access onto Moyne Road does relieve pressure on Junction 1 and Junction 2, while having little effect on Moyne Road and Junction 3.

A summary of the results of the analysis of Junction H) Hole in the Wall Road, 2023 Phase 1D year of opening "without" and "with" the development, morning and evening peak hours is shown in **Table 11** following.

Table 11: Junction H) Hole in the Wall Road Upgrade

2023 Year of Opening

	Max. RFC		**Max. Queue (PCU)**		**Average Delay (Seconds)**	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Moyne Road East	0.54 0.55	0.31 0.32	6 6	3 3	17 17	14 14
Hole in the Wall Road	0.53 0.54	0.62 0.62	4 4	5 5	29 31	31 32
Moyne Road West	0.60 0.61	0.73 0.74	6 6	8 9	22 23	22 22
Drumnigh Road	0.60 0.59	0.51 0.51	5 5	4 4	31 32	28 29

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 11 demonstrates that Junction H) Hole in the Wall Road Upgrade will operate within the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios. It is clear that the traffic generated by the Phase 1D development will have a negligible effect on the Moyne Road junction.

6.3 Operational Phase 2038 (Opening Year Phase 1D +15 Years)

A summary of the results for Junction 1) Station Road/ Drumnigh Road R124, 2038 Phase 1D design year "without" and "with" the development, morning and evening peak hours is shown in **Tables 12** following. The proposed junction 1 upgrade will little effect on traffic movements but improve road safety.

Table 12: Junction 1) Station Road/ Drumnigh Road R124

2038 Design Year

	Max. RFC		**Max. Queue (PCU)**		**Average Delay (Seconds)**	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Drumnigh Road R124 North	0 0	0 0	0 0	0 0	0 0	0 0
Station Road	1.30 1.25	1.62 1.57	57 47	134 122	524 418	1231 1127
Drumnigh Road R124 South	0.75 0.74	0.81 0.78	5 4	6 6	22 21	26 23

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. Table 13 demonstrates that Junction 1) Station Road/ Drumnigh Road R124 will exceed the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the proposed Phase 1D development will help the performance of Junction 1. During the "with" Phase 1D development scenario, the new primary access road onto Moyne Road will be constructed. This new access road going south onto Moyne Road will cater for a proportion of trips generated from the 1A, 1B, 1C and 1D developments. A high percentage of these trips will likely travel south avoiding Junction 1 entirely.

The capacity analysis indicates that the junction will not operate efficiently during the "without" and "with" the development scenarios. Any future traffic growth, irrespective of the subject development, will therefore result in an impact to the operation of the junction. Nevertheless, Phase 1D of the St. Marnock's Bay development will have a positive effect on the junction.

The analysis concurs with the observations made in the South Fingal Transport Study (2012) referenced in the Portmarnock South LAP. The study concludes that this junction will undergo capacity issues in the future and recommends that an upgrade of the junction is explored.

A summary of the results for Junction 2) Strand Road/Coast Road/Station Road, 2038 Phase 1D design year "without" and "with" the development, morning and evening peak hours is shown in Table 14 following. The proposed junction 2 upgrade will have a minor effect on traffic movements but improve road safety and provide a safer environment for pedestrians and cyclists.

Table 14: Junction 2) Strand Road/Coast Road/Station Road

2038 Design Year

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Strand Road	1.06 1.03	0.94 0.92	65 57	32 30	157 137	87 80
Coast Road	0.44 0.45	0.73 0.72	13 13	16 15	28 28	27 27
Station Road	1.02 1.02	0.81 0.80	54 51	19 18	141 139	53 52

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 14 demonstrates that the Junction 2) Strand Road/Coast Road/Station Road will exceed the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios. This is particularly clear in the morning peak hour which reaches capacity with noticeable queues and delays for motorists. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that Phase 1D development will slightly help the performance of Junction 2. During the "with" Phase 1D development scenario, the new primary access road onto Moyne Road will be constructed. This new access road going south onto Moyne Road will cater for a proportion of trips generated from the 1A, 1B, 1C and 1D developments. A high percentage of these trips will likely travel south avoiding Junction 2 entirely. Due to the existing congested nature of Junction 2, the traffic generated from the proposed development will likely take an alternative route via Moyne Road or travel before/after the peak times thus reducing the impact on the junction. Phase 1D of the St. Marnock's Bay development will have a positive effect on the junction.

The capacity analysis indicates that the junction will not operate efficiently in either the "without" and "with" the development scenarios, albeit slightly better with the development than without.

A summary of the results for Junction 3) Moyne Road/Coast Road, 2038 Phase 1D design year "without" and "with" the development, morning and evening peak hours is shown in Tables 15 following.

Table 15: Junction 3) Moyne Road/Coast Road

2038 Design Year

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Coast Road South	0 0	0 0	0 0	0 0	0 0	0 0
Moyne Road	1.08 1.19	0.90 0.96	18 32	7 10	208 325	94 126
Coast Road North	0.95 0.91	0.56 0.58	19 15	2 3	53 40	11 12

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 15 demonstrates that Junction 3) Moyne Road/Coast Road will operate above the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios.

It is clear that the traffic generated by the Phase 1D development will have a minor effect on the Moyne Road junction. However, Junction 3 will still exceed the design threshold without any additional St. Marnock's Bay developments. Additionally, the new southern development access onto Moyne Road does relieve pressure on Junction 1 and Junction 2, while having a minor effect on Moyne Road and Junction 3.

A summary of the results of the analysis of Junction H) Hole in the Wall Road, 2038 Phase 1D design year "without" and "with" the development, morning and evening peak hours is shown in **Tables 16** following.

Table 16: Junction H) Hole in the Wall Road Upgrade

2038 Design Year

	Max. RFC		**Max. Queue (PCU)**		**Average Delay (Seconds)**	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Moyne Road East	0.55 0.56	0.33 0.35	7 8	4 4	17 17	15 15
Hole in the Wall Road	0.55 0.57	0.64 0.64	5 5	6 6	32 36	34 36
Moyne Road West	0.74 0.77	0.76 0.77	7 7	9 10	29 33	24 25
Drumnigh Road	0.67 0.67	0.55 0.56	6 7	5 5	35 37	31 32

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 16 demonstrates that Junction H) Hole in the Wall Road Upgrade will operate within the normal design threshold during the morning and evening peak hours considered. This was the case both "without" and "with" the development scenarios. It is clear that the traffic generated by the Phase 1D development will have a negligible effect on the upgraded Hole in the Wall junction.

Section 7: TRIP GENERATION & ASSIGNMENT- ENTIRE DEVELOPMENT

7.1 Introduction

In order to produce a robust assessment, this section will analyse the traffic impact of the entire development comprising of c. 1,100 housing units. The entire development will be served by three new priority controlled junctions providing direct access from the external road network. Two of these junctions are on Station Road and one on Moyne Road. It is estimated that the entire development will be complete by the 15 year design horizon of 2038. Therefore, this will be used as the comparison year, "without" and "with" the entire development scenarios.

7.2 Trip Generation: Entire Development

The Trip Rate Information Computer System (TRICS) database was interrogated to derive the potential residential development trip generation rates. As the development includes 3/4-bedroom houses and 1/2/3 bedroom duplex/apartments, the trip rates were calculated "per bedroom" in order to get a more accurate result. The TRICS database was also interrogated to derive the potential trip generation rates for the proposed Local Centre (Retail + Café) and Medical Centre.

7.3 Modal Split: Entire Development

When estimating trip generation for a residential development using TRICS the trip rate for car drivers accounts for a 65-70% modal split. This is in line with the national average modal split as well as the modal split at a location with a Public Transport Accessibility Level (PTAL) of 1 (see South Fingal Transport Study 2012: Section 5). As the Portmarnock South development has a PTAL of 4[3] (see South Fingal Transport Study 2012: Section 5), we propose to use the PTAL 4 modal split of 41% for car drivers. The South Fingal Transport Study 2019 does not reference "Public Transport Accessibility Level"; therefore the 2012 study is referenced.

The majority of trips generated by the Local Centre will likely come from within the St. Marnock's Bay development and neighbouring developments without passing through Junctions 1 to 5. The trips will most likely form part of the residential trips (ie. the people using the Local will live within the St Marnock's Bay, rather than the surrounding Portmarnock/Clongriffin/Malahide area). However, to produce a robust, conservative scenario, it will be assumed that half of the trips generated by the local centre will be generated from outside the area immediately adjacent the development.

Utilising data supplied by the TRICS database including trip attenuation principles, **Table 17** following details the estimated trip generation for the entire development and Local Centre during the morning and evening peak hours being considered for this study. The full TRICS output files are contained in **Appendix 3**.

---

[3] *A Public Transport Accessibility Level (PTAL) is defined as a numerical value which determines the quality of access to public transport from a particular location. The value is based on the proximity to a service, the frequency of the service, and the nature of the service. Portmarnock South has a PTAL of 4 due to the proximity of the DART and Bus.*

Table 17: TRICS Trip Generation Residential Housing Development and Local Centre

	Time	Factor	TRICS Arrival Rate	TRICS Departure Rate	Hourly Trips (PTAL area of 1)		Attenuated Hourly Trips (PTAL area of 4)	
					Trips In	Trips Out	Trips In	Trips Out
Residential Units	**Morning Peak Hour**	c. 3,500 Bedrooms	0.040 *(per bedroom)*	0.118 *(per bedroom)*	140	413	**88**	**260**
	Evening Peak Hour		0.103 *(per bedroom)*	0.055 *(per bedroom)*	360	192	**227**	**121**
Local Centre: Retail and Café	**Morning Peak Hour**	443.8m^2	4.661 *(per 100m^2)*	4.318 *(per 100m^2)*	21	19	**11**	**10**
	Evening Peak Hour		6.874 *(per 100m^2)*	7.345 *(per 100m^2)*	31	33	**16**	**17**
Medical / Community Unit	**Morning Peak Hour**	86.9m^2	3.062 *(per 100m^2)*	1.533 *(per 100m^2)*	3	1	**2**	**1**
	Evening Peak Hour		1.257 *(per 100m^2)*	2.129 *(per 100m^2)*	1	2	**1**	**1**
TOTAL	**Morning Peak Hour**	-	-	-	**-**	**-**	**101**	**271**
	Evening Peak Hour		-	-	**-**	**-**	**244**	**139**

7.4 Trip Distribution Entire Development

When the entire development is complete, residents will be able to use the primary access road onto Moyne Road as well as the existing access points on Station Rd. The access going south onto Moyne Road is likely to attract more of the trips generated within the entire development, with at least 60% likely to travel south (Moyne Rd) and 40% likely to travel north (Station Rd). The 60% / 40% for the entire development is an estimate derived from the existing traffic flows traveling north and south at each junction and the location of each phase within the overall development itself.

In reality, due to the existing congested nature of Junction 1 and Junction 2 along Station Road, the traffic generated from the proposed development will likely pre-sort within the development itself to avoid locations of congestion or travel before/after the peak times thus reducing the amount of traffic on Station Rd.

It was assumed for the purposes of this study that the future development traffic will mirror existing travel flows when exiting and entering the development. The existing traffic from the Phase 1A development was analysed for the morning and evening peak hours. Currently of the traffic from the existing Phase 1A leaving the development, during the morning and evening peak, 60% will travel east towards the Coast Road/Strand Road junction, while the remaining 40% will travel west towards the

Drumnigh Road R124 junction. Currently the traffic on Moyne Road, during the morning peak, 50% will travel west towards the Balgriffin junction (Hole in Wall Road realignment junction), while the other 50% will travel east towards the Coast Road junction.

It has been assumed that the future development traffic distribution at the surrounding junctions will also mirror existing traffic patterns i.e. development generated flows will be split through the junction proportionally to existing flows.

7.5 Trip Assessment Years Entire Development

It is likely that the proposed entire development will be fully operational well in advance of the 15 Year Design Horizon – 2038 used in the Phase 1D traffic analysis. Therefore, the traffic analysis associated with the entire development will focus on the 15 Year Design Horizon[4] – 2038. The analysis will compare the 2038 "without" development scenario with a 2038 "with" entire development scenario. This will serve as a stress test scenario for the surrounding junctions when the entire development is complete.

Figures 14 and 15 illustrate the 2038 Design Year stress test for the "without" and "with" development scenarios for the morning and evening peak hours**.**

The Hole in the Wall Road realignment project, as noted earlier is substantially complete. The project replaced Junction 5: Balgriffin Park / Balgriffin Cottages / Moyne Road and Junction 4: Drumnigh Road / Moyne Road). Additionally, Junction 1) Station Road/Drumnigh Rd (R124) and Junction 2) Strand Road/Coast Road/Station Road upgrades should be complete in March 2022.

[4] TII (NRA) Traffic and Transport Assessment Guidelines May 2014- Required Modelling Scenario

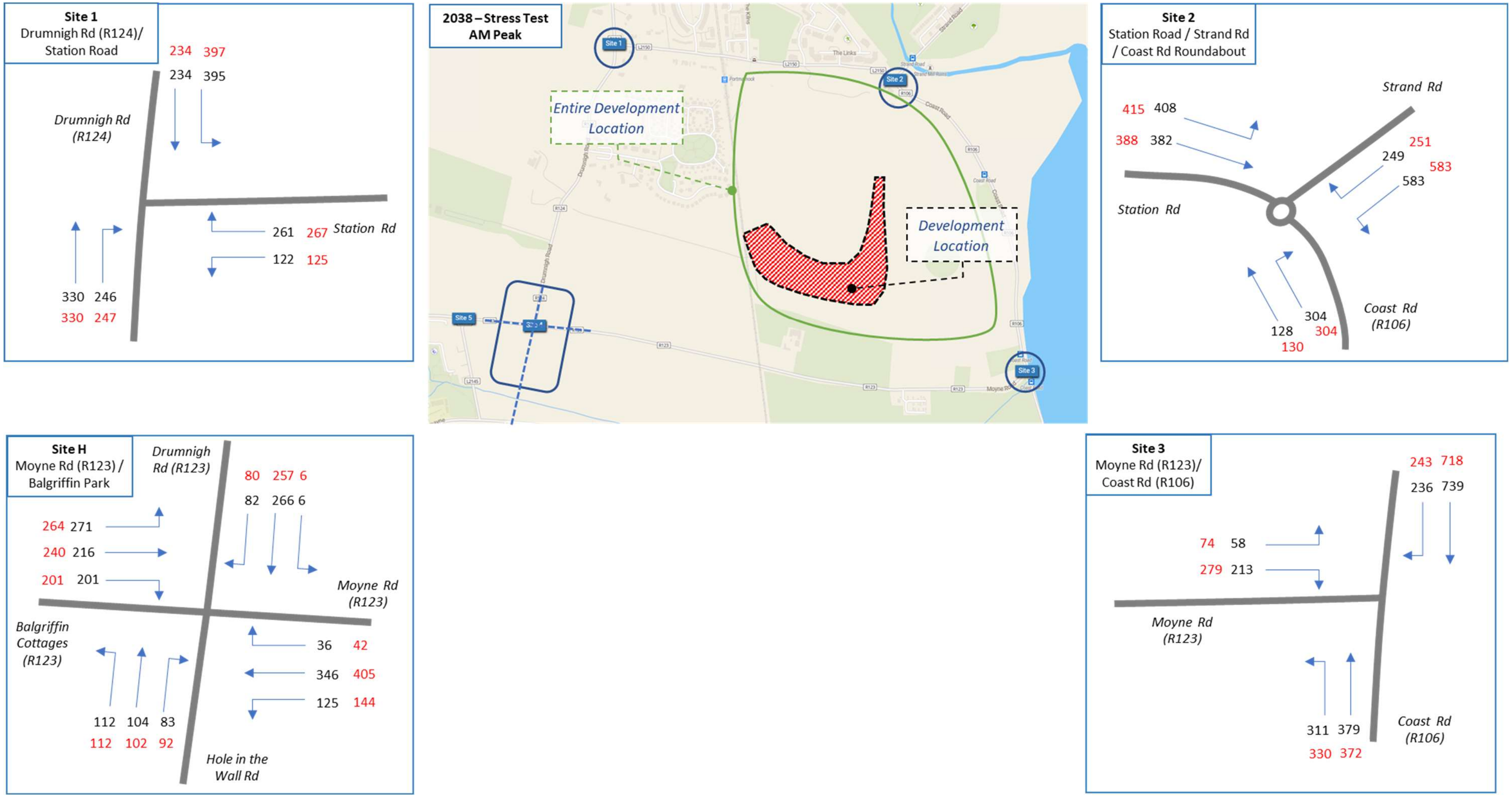


Figure 14: 2038 Morning Peak Hour Entire Development (Stress Test)

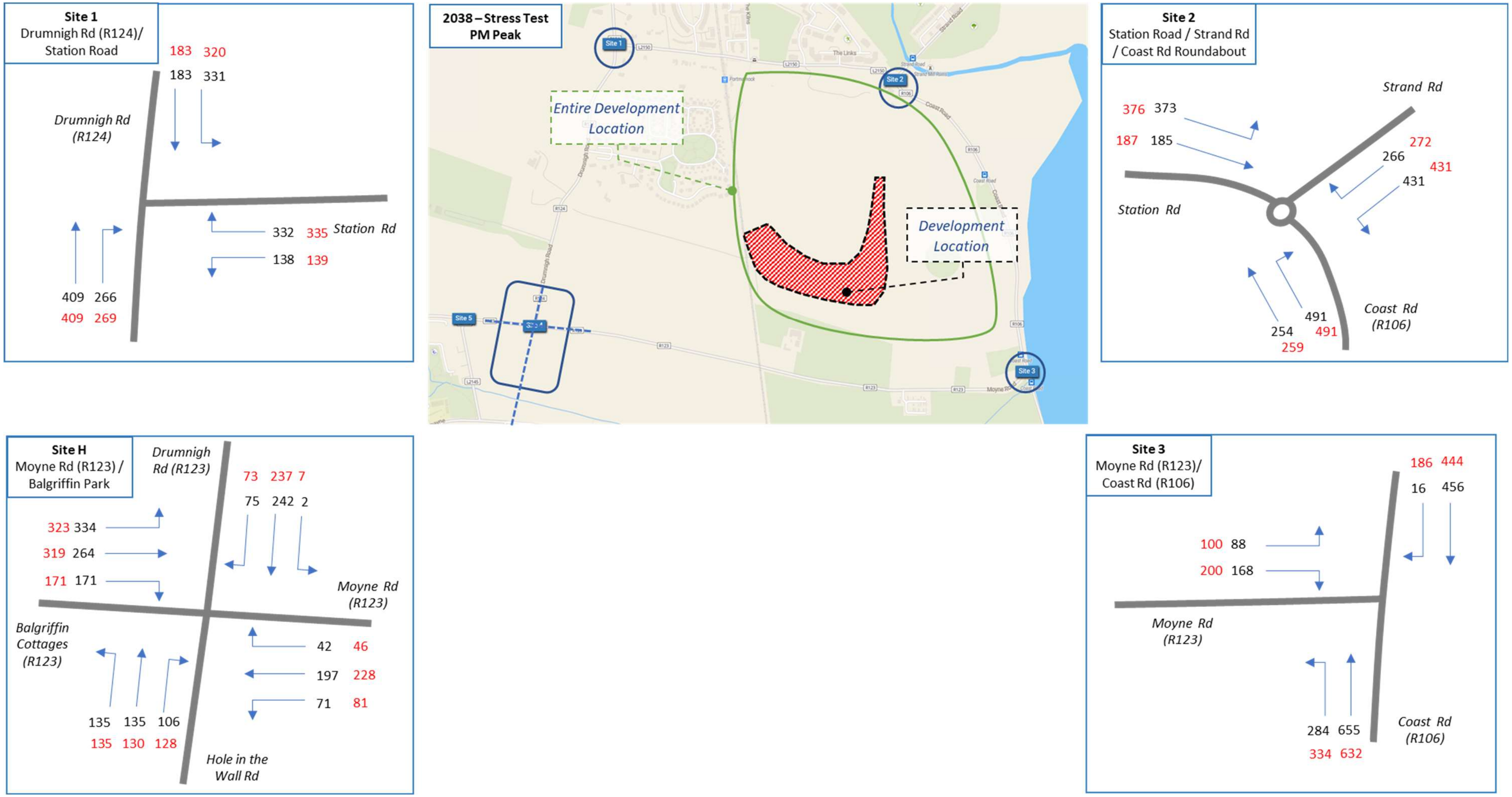


Figure 15: 2038 Evening Peak Hour Entire Development (Stress Test)

Section 8: TRAFFIC IMPACT- ENTIRE DEVELOPMENT

8.1 Background

In order to assess the future traffic impact of the proposed development, capacity assessments were undertaken using TRL's PICADY and OSCADY software on the following junctions;

- Junction 1) Station Road/ Drumnigh Road R124 (to the north/west);
- Junction 2) Strand Road/Coast Road/Station Road (to the north/east);
- Junction 3) Moyne Road/Coast Road (to the south/east);
- Junction H) Hole in the Wall Road Upgrade (to the south/west)

The junctions were modelled for the 2038 (15 Year) Design Year Horizon for the morning and evening peak hour periods using the flow diagrams shown in **Figures 14 to 15** in Section 7 herein.

To demonstrate the direct traffic impact associated with the proposed entire development on the key junctions being considered, the traffic modelling exercise was carried out for the "Without" development and "with" development scenarios.

8.2 2038 Design Year Entire Development

A summary of the results for Junction 1) Station Road/ Drumnigh Road R124, 2038 Entire Development "without" and "with" the development, morning and evening peak hours is shown in **Table 18** following. The proposed junction 1 upgrade will have little effect on traffic movements but improve road safety and provide a safer environment for pedestrians and cyclists.

Table 18: Junction 1) Station Road/ Drumnigh Road R124

2038 Design Year Entire Development

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Drumnigh Road R124 North	0 0	0 0	0 0	0 0	0 0	0 0
Station Road	1.37 1.35	1.66 1.65	68 62	142 140	653 587	1310 1282
Drumnigh Road R124 South	0.76 0.75	0.80 0.82	5 5	8 7	23 22	31 25

The normal design threshold for the ratio of flow to capacity (RFC) is 0.85 for a priority junction. Table 13 demonstrates that Junction 1) Station Road/ Drumnigh Road R124 will exceed the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios. Once a junction is at capacity any slight increase, whether it is background traffic growth or a new residential development, will have a noticeable increase in queues/delays.

However, it is clear from the analysis that the proposed entire development will help the performance of Junction 1. During the "with" entire development scenario, the new primary access road onto Moyne Road will have been constructed as part of Phase 1D. This new access road going south onto Moyne Road will cater for a proportion of trips generated from all phases of the development. A high percentage of these trips will likely travel south avoiding Junction 1 entirely.

The capacity analysis indicates that the junction will not operate efficiently during the "without" and "with" the development scenarios. Any future traffic growth, irrespective of the subject development, will therefore result in an impact to the operation of the junction. Nevertheless, the entire St. Marnock's Bay development will have a slight positive effect on the junction.

The analysis concurs with the observations made in the South Fingal Transport Study (2012) referenced in the Portmarnock South LAP. The study concludes that this junction will undergo capacity issues in the future and recommends that an upgrade of the junction is explored.

A summary of the results for Junction 2) Strand Road/Coast Road/Station Road, 2023 Phase 1D year of opening "without" and "with" the development, morning and evening peak hours is shown in Table 19 following. The proposed junction 2 upgrade will have a minor effect on traffic movements but improve road safety and provide a safer environment for pedestrians and cyclists.

Table 19: Junction 2) Strand Road/Coast Road/Station Road

2038 Design Year Entire Development

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Strand Road	1.06 1.03	0.94 0.95	65 59	32 32	157 140	87 89
Coast Road	0.44 0.45	0.73 0.72	13 13	16 15	28 29	27 26
Station Road	1.02 1.03	0.81 0.80	54 54	19 18	141 146	53 53

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 19 demonstrates that the Junction 2) Strand Road/Coast Road/Station Road will operate above the normal design threshold during the morning and evening peak hour considered. This is the case both "without" and "with" the development scenarios with queues and delays for motorists evident.

However, it is clear from the analysis that the entire development will slightly help the performance of Junction 2. During the "with" entire development scenario, the new primary access road onto Moyne Road will have been constructed as part of Phase 1D. This new access road going south onto Moyne Road will cater for a proportion of trips generated from the entire development. A high percentage of these trips will likely travel south avoiding Junction 2 entirely. Due to the existing congested nature of Junction 2, the traffic generated from the proposed development will likely take an alternative route via Moyne Road or travel before/after the peak times thus reducing the impact on the junction. The entire St. Marnock's Bay development will have a slight positive effect on the junction.

A summary of the results for Junction 3) Moyne Road/Coast Road, 2038 entire development design year "without" and "with" the development, morning and evening peak hours is shown in Table 20 following.

Table 20: Junction 3) R123 Moyne Road/R106 Coast Road

2038 Design Year Entire Development

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Coast Road South	0 0	0 0	0 0	0 0	0 0	0 0
Moyne Road	1.10 1.41	0.92 1.09	20 60	8 22	227 572	105 230
Coast Road North	0.96 0.96	0.57 0.64	22 20	3 3	62 58	11 14

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 15 demonstrates that Junction 3) Moyne Road/Coast Road will operate above the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios.

It is clear that the traffic generated by the entire development will have a minor effect on the Moyne Road junction. However, Junction 3 will still exceed the design threshold without any additional St. Marnock's Bay developments. Additionally, the new southern development access onto Moyne Road does relieve pressure on Junction 1 and Junction 2, while having a minor effect on Moyne Road and Junction 3.

A summary of the results of the analysis of Junction H) Hole in the Wall Road, 2023 Phase 1D year of opening "without" and "with" the development, morning and evening peak hours is shown in **Table 21** following.

Table 21: Junction H) Hole in the Wall Road Upgrade

2038 Design Year Entire Development

	Max. RFC		Max. Queue (PCU)		Average Delay (Seconds)	
Approach Arm	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Moyne Road East	0.55 0.58	0.33 0.37	7 8	4 4	17 17	15 15
Hole in the Wall Road	0.55 0.59	0.64 0.64	5 6	6 6	32 42	34 39
Moyne Road West	0.74 0.80	0.76 0.78	7 7	9 11	29 37	24 24
Drumnigh Road	0.67 0.68	0.55 0.56	6 7	5 5	35 40	31 32

The normal design threshold for the ratio of flow to capacity (RFC) is 0.9 for a signalised junction. Table 21 demonstrates that Junction H) Hole in the Wall Road Upgrade will operate within the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the development scenarios. It is clear that the traffic generated by the entire development will have a negligible effect on the upgraded Hole in the Wall junction.

8.3 Summary

It is noted that the junction analysis for the entire development is a robust and conservative analysis. The Entire Development 2038 Stress Test assumes that little additional transport interventions have been applied to the road network in the Fingal area and presents a "worst-case" situation where the full impact of population growth and employment distribution is assigned to the existing road network. Several committed road schemes and junction upgrades in the Fingal / North Dublin City area are to be implemented in the coming years.

It is difficult to quantify the exact impact these upgrades will have on the surrounding road network, but it is clear it will be positive. These road/junction upgrades will likely take traffic away from the smaller junctions around the St. Marnock's Bay site.

The analysis does not consider that by 2038 further sustainable transport improvements in the Fingal area such as improved DART services, Bus Connects, cycle schemes and additional government initiatives will all have a positive effect on the modal split, reducing the impact of surrounding junctions.

Section 9: PARKING PROVISION- PHASE 1D

9.1 Proposed Vehicle Parking Provision

All parking within the development will comply with the Fingal Development 2017-2023. Two more parking spaces have been provided at the duplex units to ensure there is no haphazard parking in the area. This parking provision includes;

Land Use	Units / Area	Fingal Dev Plan Parking Standards	Requirements
Residential Area			
3 / 4 – Bed House	*150*	*2 spaces per unit*	300
3 – Bed Duplex	*11*	*2 spaces per unit*	22
2 – Bed Duplex	*11*	*1.5 spaces per unit*	16.5
2/3 - Duplex	*(22)*	*1 visitor space per 5 units*	4.5
		Total:	343
		Provided:	**345**

For clarity, the design of the proposed development layout is compliant with DMURS (Design Manual for Urban Roads and Streets) and the number of proposed car parking spaces are in accordance with Fingal County Council Development Plan and whilst this may have the potential to lead to on-street parking and vehicles partially blocking roads and footpaths, it is expected to be a less likely risk for this phase given its distance from the railway station, evolution of design i.e. removal of undercroft parking (particular to Phase 1A), that the majority of roads have access from both ends and where cul-de-sacs are present, these have a more direct relationship between road and parking i.e. to park on road will block one to two parking spaces.

9.2 Proposed Bicycle Parking Provision

All bicycle parking within the development will comply with the Fingal Development Plan 2017-2023. 30 bicycle parking spaces will be provided for the 22 duplex units, in excess of the Fingal Development Plan 2017-2023 minimum requirement.

Section 10: MOBILITY MANAGEMENT PLAN PHASE 1D

10.1 Introduction

A Mobility Management Plan, also known as a Travel Plan, is a long-term management strategy which identifies a package of measures to encourage residents and visitors to use sustainable forms of transport such as walking, cycling and public transport and to reduce dependency on private car single-occupancy use. By providing for the transportation needs of people and goods in an ordered and planned manner the environmental, economic and social impacts of travel may be greatly reduced. This section of the TTA relates to Mobility Management and outlines it's aims/objectives and an action plan to achieve these objectives and how to implement this plan.

The objective of this Mobility Management section of the TTA is to improve accessibility to the site, whilst providing a more sustainable approach to the site's transportation requirements.

Developing this plan will allow the development of managed travel options and more informed travel choices for residents and visitors whilst reducing dependency on private car use associated primarily with commuter travel.

Upon completion and occupation of the development, this Mobility Management Plan will provide the basis for an examination of the commuting patterns associated with the site to be undertaken. With the information gathered, a strategy to promote sustainable travel decisions for the site will be devised. It is envisaged that occupants of the site will derive the following benefits:

- Healthier commute to work for residents;
- More informed travel options for residents and visitors;
- A reduction in the demand for parking spaces;
- Improved environmental performance;
- On-going liaison with Fingal County Council and public transport providers to maintain, improve and support transportation services to and from the site;
- Promotion of social networks within the development;
- Reduced congestion around the site; and
- Cheaper commutes for residents.

10.2 Influencing Travel Patterns

In order to give the strategy a good founding it will be necessary to fully understand the nature of the trip patterns associated with the operational stage of the proposed development. In order to achieve this, trip movements to and from the site must be examined and assessed for potential future influence.

Table 22 below lists the likely nature and extent of anticipated traffic movements to and from the proposed development. It also highlights those trips where change is most possible to influence.

Table 22: Nature of traffic movements & ability to influence

Nature of Traffic Movements to Residential Development	Increasing with Development	Possible to Influence?
Residents commuting to and from work	Yes	Yes
Leisure Related Journeys	Yes	Yes, but more difficult
Deliveries	Yes	Yes, but more difficult
Members of the Public/Visitors	Yes	Difficult and impractical

As visitor journeys are difficult to predict and influence, this mobility management plan will focus on commuting journeys for residents. As commuting journeys are by their very nature regular and predictable i.e., they generally happen in the same period every morning and every evening, they will form the focus of the Mobility Management Plan.

The setting of realistic and achievable modal split targets is vital if all or any of the measures are to be successful. The targets need to be attainable and most importantly correspond with the development's goals i.e. deliver the benefits listed above.

10.3 Accessibility Audit

Section 2 provides a summary of existing and proposed public transport services in the vicinity of the development. The section also looks at the existing road infrastructure and facilities. Section 4 contains a summary of the existing and proposed facilities for pedestrians and cyclists. In summary, the principle of providing sustainable transport which is embodied in the Portmarnock South Local Area Plan will be given physical expression in the proposed development. The form and structure of the proposed development will encourage the use of public transport, cycling and walking in preference to the private car.

10.4 Action Plan

Commuter journeys by their very nature usually occur between the same two points (eg home and work) and at regular times. The successful implementation of the mobility management plan will provide the development with a number of advantages, which include:

- Improved environmental performance;
- Improved social networks between residents;
- Improved health and well-being for those staff using active transport modes;
- Reduced demand for car parking spaces;
- Improved corporate image and social responsibility.

The following details the available initiatives to reduce the environmental impact of commuter journeys.

Car Pooling Scheme

While use of the car will be essential for a large proportion of residents, car sharing schemes have the potential to deliver a significant reduction in private vehicle trips by promoting more residents to travel in each vehicle, thereby lowering single occupancy vehicle (SOV) trips to the site.

A car pooling scheme relies on a database to match residents, using information about their work addresses, their working hours, their preferences such as gender/driver or passenger and their preferred route to and from work. Depending on the desired level of on-going Management Company/Residents Association input, a number of database options exist, some examples include:

- Message boards (either paper, electronic or web-based);
- Manually administered system championed by an individual, who's function is to match individuals interested in car sharing;
- Websites that have automated functions to match people and provide contact details;
- Websites that have automated functions to match people and provides a message service to potential matches;
- Dedicated phone line systems in cases where people are unlikely to have internet access.

The most successful car sharing schemes rely on strong promotion, are internet based and use an operator to contact members on a regular basis to inform them of potential lifts.

A number of car sharing initiatives have been launched recently in Dublin, including the "Gocar" pay-as-you-drive scheme which allows subscribed members to share in the use of a pool of vehicles by reserving a time allocation online in advance and "carsharing.ie", a car pooling service that facilitates people looking to tripshare. The local centre, which is included in the Phase 1C development currently under construction, can be used to help promote these initiatives when completed.

Walking

It is proposed to provide a network of footpaths that will permeate the residential area and provide a high degree of accessibility to local facilities and to bus and rail transport. Initiatives such as the development of a support forum whereby any localised problems can be discussed, with the aim of pursuing corrective action from the local authority may encourage walking amongst residents.

On the basis that 30 mins is considered an acceptable walking distance, residents can walk to an area that includes Portmarnock Village, Baldoyle and Clongriffin.

Refer to Figure 16 following for illustration of 30min walking cordon.

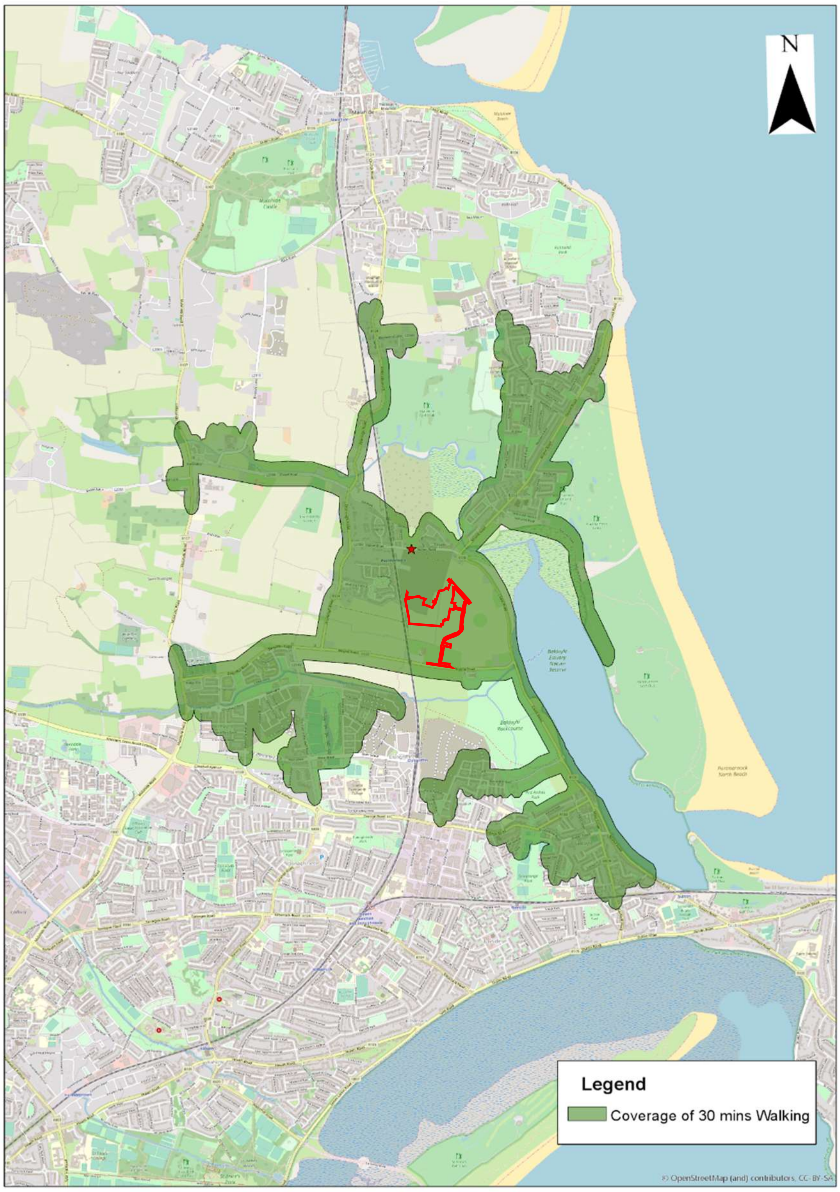


Figure 16: 30 min Walking Cordon

Cycling

A number of segregated combined cycle and footpath routes through the development and a circular cycle/footpath route will connect homes to the DART station, commercial area and open space. For commuter journeys, cycling is a feasible mode of transport for those working within 30 mins of the site. Cyclists could therefore be expected to travel to an area encompassed by Clontarf, Howth, Malahide and Beaumont. Greater distances such as to the city centre, could be expected from cycle enthusiasts and regular cyclists.

Refer to Figure 17 following for illustration of 30 min cycling cordon.

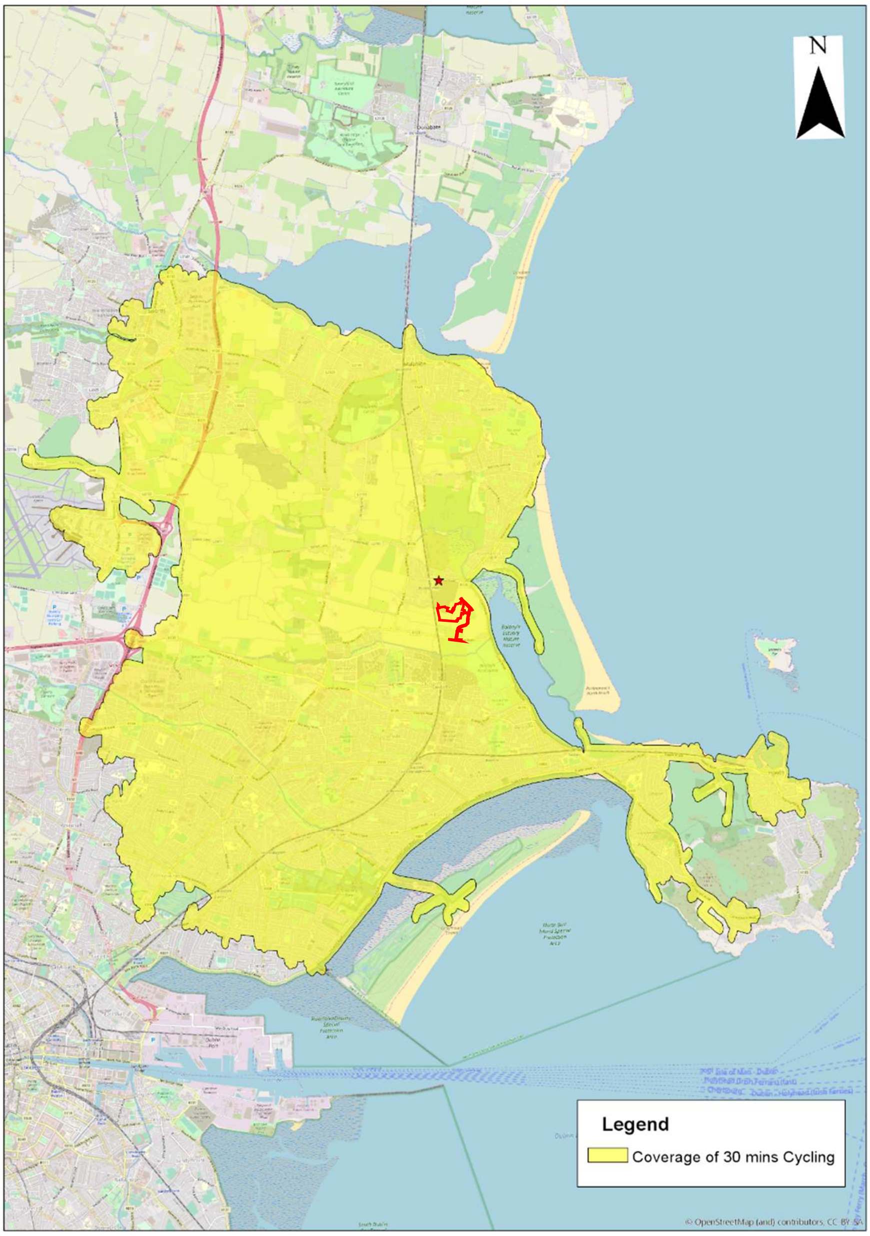


Figure 17: 30 min Cycling Cordon

The Government led initiative "Bike to Work" scheme allows employers to purchase a bicycle and safety equipment up to the value of €1,500. Employees can then use a salary sacrifice to pay for the bike, allowing them to save up to 52% on the retail price of the bike and safety equipment. Employers benefit by PRSI savings of 10.75%, as well as a reduced parking demand, a fitter and healthier workforce and improved environmental image.

Public Transport

The residential development and surrounding lands are currently well serviced by public transport between the Dart and Dublin Bus routes. To encourage patronage within the development for public transport the following measures could be set in motion:

- Generate a site-specific leaflet showing all public transport routes;
- Promotion of a more environmentally friendly way to travel to work.
- Encourage Dublin Bus/Irish Rail to provide better public transport services to the site as demand grows.

10.5 Implementing the Plan

The setting of realistic targets and a sustained approach to the promotion of the Mobility Management Plan is vital if all or any of the measures are to be successful. The objectives and benefits of the Plan to both the individual and the development should be made clear and broadcast during the full lifecycle of the Plan. Modal split targets need to be attainable and most importantly correspond with the development's goals i.e. supporting and enhancing the lives the residents involved. As well as reviewing objectives and initiatives regularly, it is equally important to measure results. This ensures that the targets are realistic and are being met and most importantly they correspond with the development's goals.

The target modal splits for Portmarnock South Residential Development are identified in Table 23 following. They correlate closely with the goals set out in the South Fingal Transport Study.

Table 23: Portmarnock South Target Modal Splits

	Initiative	Impact on Delivery	Difficulty in Delivering	Target Modal Split
Resident Commuter Journeys and Initiatives	Cycling	Medium	Medium	8%
	Walking	Medium	Medium	5%
	DART	High	Low	35%
	Bus	High	Low	8%
	Other	Low	High	4%
	SOV Cars	NA	NA	40%

10.6 Conclusion

With congestion becoming an ever-increasing problem in Ireland, providing more road network capacity is considered an un-sustainable option. Therefore, managing transportation demand at source using mobility management measures remains an attractive, low cost and viable option.

Mobility management measures are relatively new to Ireland and are therefore not widely understood. In the absence of extensive Irish based performance data associated with such measures, expectations for their implementation and performance are often idealistic. Mobility management measures for residential developments are difficult to arrange and monitor. The proposals set out herein however give a framework for adopting mobility management principles.

A mobility management plan is not a one-off event, more so it is an on-going iterative process. This section of the TTA provides guidance for its potential success. The collection of commuter data, and on-going monitoring and reviewing of the initiatives set out within the plan will form a far greater part of the Mobility Management Plan itself.

Preliminary targets should be reviewed and adjusted as required. Failing to meet initial targets should not be seen as failure, as the initial 12 to 18 months of the plan should be viewed as a calibration exercise for target setting.

Section 11: ROAD SAFETY: PHASE 1D

11.1 Introduction

The proposed development has been designed with pedestrians and cyclists needs at the forefront rather than motorists. This will create a congenial and safe environment for pedestrians and cyclists. Footway and cycleway networks are designed in accordance with the Design Manual for Urban Roads and Streets and will facilitate direct and safe access between the adjacent Portmarnock DART station and surrounding areas.

The development access points are carefully positioned at locations to maximise available forward visibility along Station Road and Moyne Road. The development junctions have been designed to ensure that two-way traffic movements can be safely accommodated, and, in addition, the swept path of refuse type vehicles is catered for. The access junctions and internal site junctions have been designed in accordance with the Design Manual for Urban Roads and Streets (2019).

11.2 RSA Database

The Road Safety Authority (RSA) database of road collision information was interrogated to establish if the surrounding road network in the vicinity of the proposed development access holds records relating to historical collision occurrence (Figure 18 below). Collisions from 2005 to 2016 only are available.

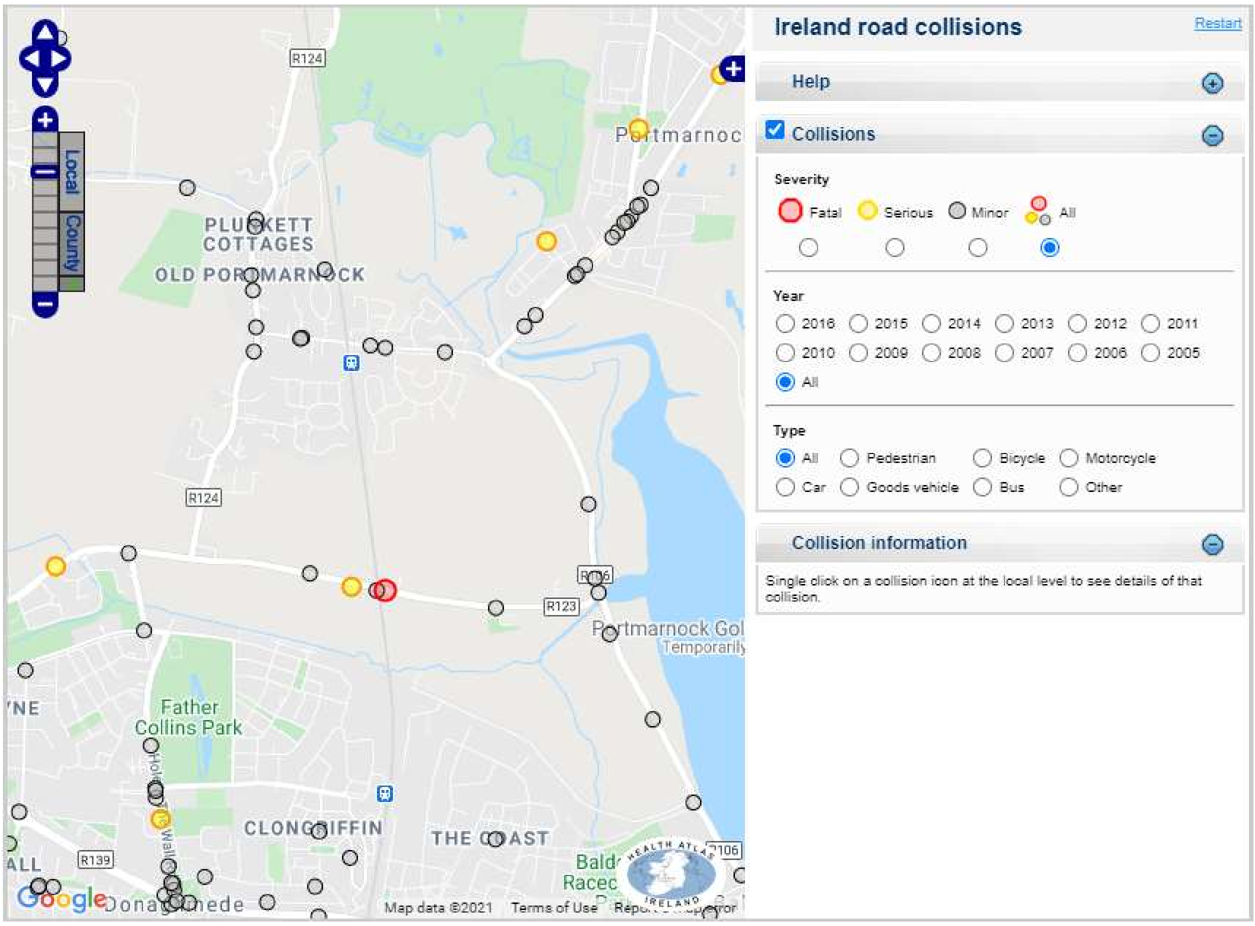


Figure 18: RSA record of collisions

This exercise revealed that there has been one fatal collision on Moyne Road, recorded in 2013. In addition, there has been one serious single vehicle collision (involving a motorcycle 2010) and a series of minor collisions on the surrounding road network near the development. Due to the isolated nature and low frequency of these collisions a pattern of collisions is not identifiable. It is anticipated that the proposed development will have no significant negative impact on the road safety of the area. Additionally, the proposed junction upgrades as referenced in Section 5.5 will have a positive impact on road safety in particular vulnerable road users.

Section 12: SUMMARY & CONCLUSION

Introduction

This TTA examines the impacts of the proposed Portmarnock South Phase 1D residential development in Portmarnock, Co. Dublin. The proposed Phase 1D development consists of 172 residential units, associated roads, footpaths, cycle tracks, landscaping, services and a new primary access road to Moyne Road. The assessment has addressed:

- Existing traffic behaviour;
- Proposed new access arrangements;
- Road Safety Assessment;
- Trip generation associated with the proposed residential development (Phase 1D and Entire Development);
- Traffic impact of the proposal (Phase 1D and Entire Development);
- Proposed car and bicycle parking;
- Mobility Management;
- Road Safety;

A historical vehicle turning movement survey was carried out on Tuesday 26th February 2019 at five junctions near the subject site most likely to be affected by the development. The survey captured all turning movements at each of the junctions.

Expected trip generation for the proposed Phase 1D residential development was estimated utilising the TRICS database. Trips generated for the Phase 1D and Entire Development were calculated separately.

Existing Traffic Volumes

The analysis and operational assessment of the proposed residential development at the 5 junctions revealed that at present in 2021 Junction 1) Station Road/Drumnigh Road R124 has reached capacity and will operate over it's normal design threshold with moderate queues and delays for motorists starting to form. The remaining four junctions operate just within the normal design threshold during the morning and evening peak hours considered. Due to the current Covid-19 restrictions, there is less traffic in the area and therefore difficult to say that this analysis concurs with observations made on site at this moment. However, the analysis does concur with observations made pre Covid restrictions while working on previous developments in the area.

Traffic Impact Phase 1D

The analysis demonstrated that Junction 1) Station Road/Drumnigh Road R124 and Junction 2) Strand Road/Coast Road/Station Road will exceed the normal design threshold during the morning and evening peak hours considered. This is the case both for the "without" and "with" development scenarios. However, it is clear from the analysis that Phase 1D development will help the performance of Junctions 1 and 2. During the "with" Phase 1D development scenario, the new primary access road to Moyne Road will be constructed. This new access road going south onto Moyne Road will cater for a proportion of trips generated from the 1A, 1B, 1C and 1D developments. A high percentage of these trips will likely travel south avoiding Junction 1 and 2 entirely and improving the current traffic situation at these junctions. This is the case for the 2023 Year of Opening and the 2038 Design Year.

In the year of opening 2023, Junction 3) Moyne Road/Coast Road and the new Junction H) Hole in the Wall upgrade will continue to operate within the normal design threshold. This is the case "without" and "with" the Phase 1D development. However, by the 2038 Design, Junction 3) Moyne Road/Coast Road will begin to exceed the normal design threshold, "without" and "with" the Phase 1D development, with queuing and delays evident. Future traffic growth, irrespective of the subject development, will result in an impact on the operation of the junction.

Traffic Impact Entire Development

The analysis demonstrates that Junction 1) Station Road/Drumnigh Road R124, Junction 2) Strand Road/Coast Road/Station Road and Junction 3) Moyne Road/Coast Road will exceed the normal design threshold during the morning and evening peak hours considered. This is the case both "without" and "with" the entire development scenarios.

It is noted that the junction analysis for the entire development is a robust and conservative analysis. The Entire Development 2038 Stress Test assumes that little additional transport interventions have been applied to the road network in the Fingal area and presents a "worst-case" situation where the full impact of population growth and employment distribution is assigned to the existing road network. Several committed road schemes and junction upgrades in the Fingal / North Dublin City area are to be implemented in the coming years.

It is difficult to quantify the exact impact these upgrades will have on the surrounding road network, but it is clear it will be positive. These road/junction upgrades will likely take traffic away from the smaller junctions around the St. Marnock's Bay site.

The analysis does not consider that by 2038 further sustainable transport improvements in the Fingal area such as improved DART services, Bus Connects, cycle schemes and additional government initiatives will all have a positive effect on the modal split, reducing the impact of surrounding junctions.

The analysis indicates that these junctions will not operate efficiently in either the "without" and "with" the development scenarios.

Mobility Management

Mobility Management is a long-term management strategy which identifies a package of measures to encourage residents and visitors to use sustainable forms of transport such as walking, cycling and public transport and to reduce dependency on private car single-occupancy use. The Mobility Management section of the TTA provides a strategy to promote sustainable travel decisions and encourage the occupants of the residential development to derive the benefits of sustainable transport.

Road Safety

The proposed development has been designed with pedestrians and cyclists needs at the forefront rather than motorists. Footway/cycleway networks, access points and roads are all designed in accordance with the Design Manual for Urban Roads and Streets. It is anticipated that the proposed development will have no significant negative impact on the road safety of the area.

Conclusion

The study concludes that from a traffic and road safety perspective, Phase 1D of the proposed residential development as described herein, does not pose any significant impact. The construction of Phase 1D will in fact help the performance of Junctions 1 and 2. During the "with" Phase 1D development scenario, the new primary access road to Moyne Road will be constructed. This new access going south onto Moyne Road will cater for a proportion of trips generated by the 1A, 1B, 1C and 1D developments. When the Entire Development is constructed, it will have a negligible impact of the surrounding road network, nevertheless the junctions will reach capacity for both the "without" and "with" development scenarios.

Appendix 1- FINGAL COUNTY COUNCIL INTERNAL CONSULTEE PLANNING REPORT (JBB Responses in Blue)

Report of the Transportation Planning Section

General

- The proposed development is located in a 50km/hr speed limit.

  Noted – for the development itself we would propose a 30kph in keeping with a residential estate.

Parking

- Parking for the proposed development is consistent with the Development Plan Standards. Parking for the residential units is provided at a rate of two in-curtilage parking spaces per unit amounting to a total of 300 parking spaces for 150 residential house type units. While the duplex units have 47 parking spaces to address the residential and visitor parking requirements of the unit types (including two mobility impaired parking spaces). Consequently, there are three additional parking spaces provided above the Development Plan Standards. This is acceptable, the additional parking spaces can serve as extra visitor parking for the proposed development.

  Noted, duplex parking spaces reduced to 45, 2 additional parking spaces.

Bicycle Parking

- Bicycle parking for the residential house units can be addressed within the curtilage of the individual house units. There is a bicycle parking area adjoining each of the Duplex unit blocks. The bicycle parking is to the side of the duplex blocks consequently passive supervision of these parking facilities is non-existent. A better level of passive supervision would enhance security of the bike storage areas. The visitor parking provision should be provided in a separate area to the residential parking area, should be covered and passively supervised to provide for enhanced security.

  Noted and addressed with revised layouts.

Layout

- The general road layout is consistent with the previous phases of development and ties in as appropriate. Road widths are consistent with the recommendations of the Design Manual for Urban Roads and Streets however, there are a number of straight runs that would require traffic calming as the slight bends in the road are not sufficient to passively reduce vehicle speeds in these areas.

  Noted – horizontal build outs have been introduced at a number of locations to passively reduce vehicle speeds.

  It should be noted that there is a significant prevalence of on-street parking in the existing development particularly adjoining the eastern side of the railway line. As the street widths are consistent with the narrow road widths recommended in the Design Manual for Urban Roads and Streets this has led to vehicles partially blocking both the road and the footpath. This is undesirable in terms of pedestrian movements on a daily basis but also with regard to emergency vehicle access.

  Noted, however as acknowledged, the design of the proposed development layout is compliant with DMURS (Design Manual for Urban Roads and Streets) and also acknowledged above the proposed car parking spaces are in accordance with Fingal County Council Development Plan and whilst this may have the potential to lead to on-

street parking and vehicles partially blocking roads and footpaths, it is expected to be a less likely risk for this phase given its distance from the railway station, evolution of design i.e. removal of undercroft parking, that the majority of roads have access from both ends and where cul-de-sacs are present, these have a more direct relationship between road and parking i.e. to park on road will block one to two parking spaces.

Mayne Road Site Access

- It is proposed to provide a new access off Mayne Road to provide for a construction access in the short term and a permanent access for the full development of the remaining LAP lands (including the proposed development). This will serve as the sole construction access for the construction works removing any potential development related HGV movements along Station Road. This is a welcome proposal and would improve the safety of the existing Station road junction with the Drumnigh Road (R124). Sightlines for the permanent access have been shown for the permanent access by amending the boundary treatment as required. This too is acceptable. The provision of this secondary access for such a significant quantum of residential too is welcome.

Noted – for clarity a Haul Road (F20A/0700) is currently under construction connecting the current development to the Moyne Road and will be completed in December 2021. The proposed permanent Access Road as part of the Proposed Development (Phase 1D) will eventually supersede the above temporary Haul Road.

Traffic & Transport Assessment and Strategic Infrastructure Requirements

- A Traffic & Transport Assessment has been provided. The upgrade of the Station Road junction with Drumnigh Road (R124) and the junction of Strand Road and Strand Road with Coast Road has been addressed as part of the previous SHD application and a similar condition should be incorporated into the current proposed development to ensure these essential upgrades are delivered to facilitate the current proposal and the future development of the remaining lands located in the Portmarnock and within the control of the applicant.

Noted, however it is considered that this request to include a condition from a previous planning permission (ABP-305619-19) is unwarranted.

The Applicant has had engaged extensively with FCC Transportation to agree the design and costings associated with the upgrade works to the Station Road junction with Drumnigh Road (R124) and the junction of Strand Road and Strand Road with Coast Road.

Compliance agreement was issued by FCC on 14th October 2021 (ref: SHD/012/19/C10/2). The agreement with FCC in compliance with this condition requires the Client to undertake all upgrades on Coast Road/Strand Road junction and interim Stage 1 upgrades on the Station Road/Drumnigh Road junction.

A Road opening licence is in place and a contractor has been appointed for the Stage 1 works which will commence on site in January 2022. The works are expected to take 6 weeks to complete. Therefore, we respectfully submit that there is no requirement to attach a similar condition on the basis that the works required by our client under this condition and the associated special levy payments will be complete well in advance of the next phase of development commencing (i.e. the proposed development).

The final permanent upgrades (second stage) are to be undertaken by FCC under a Capital Works project, following acquisition of required land strips on Station Road. A S.48(2)(c) Special contribution Levy under condition 32 (ABP-305619-19) is also agreed with FCC and payments are made to FCC Bonds (see attached correspondence below from FCC Bonds & Contributions).

Comhairle Contae Fhine Gall
Fingal County Council

An Roinn um Pleanáil agus Infrastruchtúr Straitéiseach
Planning and Strategic Infrastructure Department

CN 20681 BN 3511

Date: 26th November, 2021.

Niamh Reville,
Sales Completion Manager,
Fitzwilliam Court,
Leeson Close,
Dublin 2,
D02 YW24

**Re: Development at Portmarnock South, Station Road, Portmarnock, Co. Dublin.
1-19 Skylark Park Gate and 2 – 7 Skylark Park View.
Register Reference: ABP-305619. SHD/12/19.**

Dear Sir/Madam,

I wish to confirm that Condition No's 32 and 33 of planning permission granted under Register Reference An Bord Pleanala Ref. ABP-305619.19 SHD/12/19 which required the payment of financial contributions to Fingal County Council have been complied with in respect of the sites listed below.

I wish to advise that Condition No. 31 of planning permission granted under Register Reference An Bord Pleanala Ref. ABP-305619.19 SHD/12/19 which required the lodgement of security to Fingal County Council have been complied with in respect of the sites listed below.

Yours faithfully,

J. Derham

Jean Derham
Bonds & Contributions

Note: Please keep this letter of compliance with your property deeds as you may be requested to provide a copy to a solicitor or mortgage provider if you decide to sell or re-mortgage your property.

An Roinn Pleanála & Infrastruchtúir Straitéisigh, Rannóg Bannaí agus Ranníocaíochtaí, Bosca 174, Áras an Chontae, Sord, Fine Gall, Co.Bhaile Átha Cliath
Planning & Strategic Infrastructure Department, Bonds & Contributions Section, P.O. Box 174, County Hall, Main Street, Swords, Co. Dublin
t: (01) 890 5545 f: (01) 890 6779 e-mail: planning@fingalcoco.ie

Recycled Paper

Conclusion

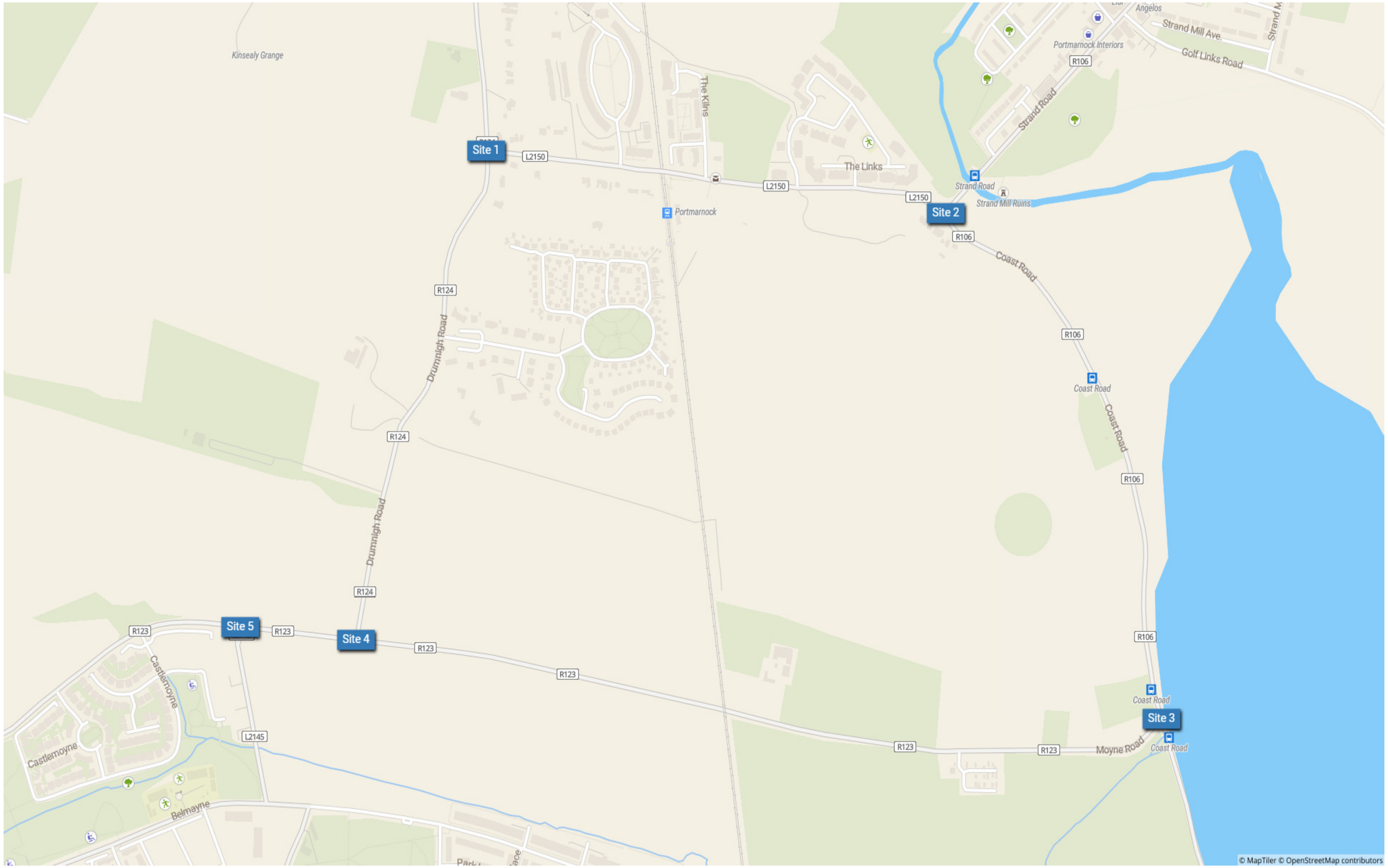
- The Transportation Planning Section is generally satisfied with the current proposal and will work with the Applicant to address any outstanding issues in advance of the lodgement of the full application.

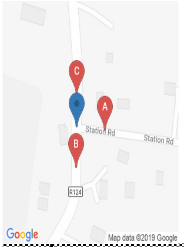
  Noted and appreciated.

Appendix 2- Traffic Count Data

IDASO

Survey Name: 036 19051 Portmarnock
Date: 26 Feb 2019





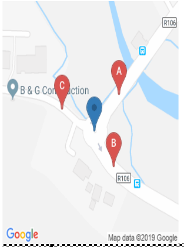
IDASO

Survey Name: 036 19051 Portmarnock
Site: Site 1
Location: Station Road/R124
Date: 26-Feb-2019

	A => A									A => B									A => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	0	26	2	0	0	0	28	28	1	0	19	3	0	0	0	23	22.2
07:15	0	0	0	0	0	0	0	0	0	2	0	30	4	1	0	0	37	35.9	1	0	16	6	1	0	0	24	23.7
07:30	0	0	0	0	0	0	0	0	0	3	0	42	1	1	0	0	47	45.1	1	0	40	1	1	0	0	43	42.7
07:45	0	0	0	0	0	0	0	0	0	4	0	28	0	0	0	0	32	28.8	0	0	49	5	0	0	0	54	54
H/TOT	0	0	0	0	0	0	0	0	0	9	0	126	7	2	0	0	144	137.8	3	0	124	15	2	0	0	144	142.6
08:00	0	0	0	0	0	0	0	0	0	1	0	18	0	1	0	0	20	19.7	1	0	43	1	0	1	0	46	46.5
08:15	0	0	0	0	0	0	0	0	0	0	0	17	1	0	0	0	18	18	0	0	39	0	0	0	0	39	39
08:30	0	0	0	0	0	0	0	0	0	1	0	17	0	1	1	0	20	21	0	0	50	0	0	0	0	50	50
08:45	0	0	0	0	0	0	0	0	0	0	0	24	3	1	0	0	28	28.5	1	0	52	2	0	0	0	55	54.2
H/TOT	0	0	0	0	0	0	0	0	0	2	0	76	4	3	1	0	86	87.2	2	0	184	3	0	1	0	190	189.7
09:00	0	0	0	0	0	0	0	0	0	0	0	30	1	2	1	0	34	36.3	0	0	35	1	0	0	0	36	36
09:15	0	0	0	0	0	0	0	0	0	0	0	25	1	0	1	0	27	28.3	0	0	39	2	1	2	0	44	47.1
09:30	0	0	0	0	0	0	0	0	0	0	0	18	2	2	1	0	23	25.3	0	0	23	4	0	0	0	27	27
09:45	0	0	0	0	0	0	0	0	0	0	0	27	0	0	0	0	27	27	0	0	26	7	1	0	0	34	34.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	100	4	4	3	0	111	116.9	0	0	123	14	2	2	0	141	144.6
10:00	0	0	0	0	0	0	0	0	0	0	0	11	5	0	0	0	16	16	0	1	35	3	0	0	0	39	38.4
10:15	0	0	0	0	0	0	0	0	0	0	0	14	2	1	2	0	19	22.1	1	0	28	2	0	1	0	32	32.5
10:30	0	0	0	0	0	0	0	0	0	0	0	19	5	0	1	0	25	26.3	0	0	25	5	2	0	0	32	33
10:45	0	0	0	0	0	0	0	0	0	0	0	14	2	0	1	0	17	18.3	0	0	19	7	0	1	0	27	28.3
H/TOT	0	0	0	0	0	0	0	0	0	0	0	58	14	1	4	0	77	82.7	1	1	107	17	2	2	0	130	132.2
11:00	0	0	0	0	0	0	0	0	0	1	0	15	1	1	0	0	18	17.7	0	0	28	9	0	0	0	37	37
11:15	0	0	0	0	0	0	0	0	0	0	0	20	4	0	2	0	26	28.6	0	0	23	5	2	0	0	30	31
11:30	0	0	0	0	0	0	0	0	0	0	0	25	5	0	1	0	31	32.3	1	1	26	2	0	1	0	31	30.9
11:45	0	0	0	0	0	0	0	0	0	0	0	26	1	1	0	0	28	28.5	0	1	31	3	1	1	0	37	38.2
H/TOT	0	0	0	0	0	0	0	0	0	1	0	86	11	2	3	0	103	107.1	1	2	108	19	3	2	0	135	137.1
12:00	0	0	0	0	0	0	0	0	0	1	0	17	1	0	0	0	19	18.2	0	0	28	2	0	0	0	30	30
12:15	0	0	0	0	0	0	0	0	0	0	0	16	1	0	0	0	17	17	0	0	27	4	2	1	0	34	36.3
12:30	0	0	0	0	0	0	0	0	0	0	0	29	0	1	1	0	31	32.8	0	0	39	5	2	0	0	46	47
12:45	0	0	0	0	0	0	0	0	0	0	0	11	1	0	0	0	12	12	2	0	23	1	3	1	0	30	31.2
H/TOT	0	0	0	0	0	0	0	0	0	1	0	73	3	1	1	0	79	80	2	0	117	12	7	2	0	140	144.5
13:00	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	1	22	23	0	1	32	3	0	0	1	37	37.4
13:15	0	0	0	0	0	0	0	0	0	0	0	23	1	1	1	0	26	27.8	0	0	37	0	1	0	0	38	38.5
13:30	0	0	0	0	0	0	0	0	0	1	1	33	2	0	3	0	40	42.5	1	0	37	1	0	0	0	39	38.2
13:45	0	0	0	0	0	0	0	0	0	0	1	23	1	0	0	0	25	24.4	0	0	30	2	0	0	0	32	32
H/TOT	0	0	0	0	0	0	0	0	0	1	2	100	4	1	4	1	113	117.7	1	1	136	6	1	0	1	146	146.1
14:00	0	0	0	0	0	0	0	0	0	0	0	15	2	2	1	0	20	22.3	0	0	26	6	0	1	1	34	36.3
14:15	0	0	0	0	0	0	0	0	0	0	0	16	1	0	0	0	17	17	1	0	31	4	1	1	0	38	39
14:30	0	0	0	0	0	0	0	0	0	1	0	30	2	1	0	0	34	33.7	0	0	44	6	2	1	0	53	55.3
14:45	0	0	0	0	0	0	0	0	0	0	0	30	3	1	0	0	34	34.5	0	0	35	3	0	2	0	40	42.6
H/TOT	0	0	0	0	0	0	0	0	0	1	0	91	8	4	1	0	105	107.5	1	0	136	19	3	5	1	165	173.2
15:00	0	0	0	0	0	0	0	0	0	1	0	24	6	0	1	0	32	32.5	0	0	36	5	1	1	0	43	44.8
15:15	0	0	0	0	0	0	0	0	0	1	0	22	5	0	1	0	29	29.5	0	0	36	7	2	1	0	46	48.3
15:30	0	0	0	0	0	0	0	0	0	0	0	28	4	2	0	0	34	35	0	0	35	3	1	1	0	40	41.8
15:45	0	0	0	0	0	0	0	0	0	0	0	21	1	0	0	0	22	22	0	0	41	7	2	1	0	51	53.3
H/TOT	0	0	0	0	0	0	0	0	0	2	0	95	16	2	2	0	117	119	0	0	148	22	6	4	0	180	188.2
16:00	0	0	0	0	0	0	0	0	0	1	0	27	3	1	0	0	32	31.7	0	0	50	5	0	0	0	55	55
16:15	0	0	0	0	0	0	0	0	0	0	0	29	2	0	1	0	32	33.3	0	0	56	5	1	0	0	62	62.5
16:30	0	0	0	0	0	0	0	0	0	1	0	27	5	0	0	0	33	32.2	0	0	57	12	0	1	0	70	71.3
16:45	0	0	0	0	0	0	0	0	0	0	0	14	3	1	0	0	18	18.5	0	0	53	3	0	1	0	57	58.3
H/TOT	0	0	0	0	0	0	0	0	0	2	0	97	13	2	1	0	115	115.7	0	0	216	25	1	2	0	244	247.1
17:00	0	0	0	0	0	0	0	0	0	0	0	25	6	0	0	0	31	31	0	0	57	7	1	0	0	65	65.5
17:15	0	0	0	0	0	0	0	0	0	2	0	24	3	0	0	0	29	27.4	0	1	54	6	1	0	0	62	61.9
17:30	0	0	0	0	0	0	0	0	0	0	0	22	4	0	0	0	26	26	1	0	49	5	0	0	0	55	54.2
17:45	0	0	0	0	0	0	0	0	0	2	0	19	2	0	0	0	23	21.4	0	0	67	4	1	0	0	72	72.5
H/TOT	0	0	0	0	0	0	0	0	0	4	0	90	15	0	0	0	109	105.8	1	1	227	22	3	0	0	254	254.1
18:00	0	0	0	0	0	0	0	0	0	1	0	30	5	0	0	0	36	35.2	0	1	47	6	1	0	0	55	54.9
18:15	0	0	0	0	0	0	0	0	0	0	1	10	2	0	0	0	13	12.4	0	0	56	3	1	0	0	60	60.5
18:30	0	0	0	0	0	0	0	0	0	0	0	33	1	0	0	0	34	34	0	0	44	5	0	0	0	49	49
18:45	0	0	0	0	0	0	0	0	0	1	1	18	1	0	0	0	21	19.6	0	0	22	2	0	0	0	24	24
H/TOT	0	0	0	0	0	0	0	0	0	2	2	91	9	0	0	0	104	101.2	0	1	169	16	2	0	0	188	188.4
12 TOT	0	0	0	0	0	0	0	0	0	25	4	1083	108	22	20	1	1263	1279	12	6	1795	190	32	20	2	2057	2088

	B => A									B => B									B => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	20	5	0	0	0	25	25	0	0	0	0	0	0	0	0	0	0	0	3	4	0	1	0	8	9.3
07:15	2	0	34	15	0	0	0	51	49.4	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0	10	10
07:30	0	0	42	8	1	0	0	51	51.5	0	0	0	0	0	0	0	0	0	1	0	8	4	0	0	0	13	12.2
07:45	2	0	39	10	1	0	0	52	50.9	0	0	0	0	0	0	0	0	0	0	1	20	3	0	2	0	26	28
H/TOT	4	0	135	38	2	0	0	179	176.8	0	0	0	0	0	0	0	0	0	1	1	39	13	0	3	0	57	59.5
08:00	1	0	37	5	0	1	0	44	44.5	0	0	0	0	0	0	0	0	0	1	0	33	5	0	0	0	39	38.2
08:15	1	0	49	2	1	0	1	54	54.7	0	0	0	0	0	0	0	0	0	0	0	62	4	1	0	0	67	67.5
08:30	0	0	55	2	0	0	0	57	57	0	0	0	0	0	0	0	0	0	0	0	109	6	0	0	0	115	115
08:45	0	0	31	1	2	0	0	34	35	0	0	0	0	0	0	0	0	0	0	0	38	4	0	1	0	43	44.3
H/TOT	2	0	172	10	3	1	1	189	191.2	0	0	0	0	0	0	0	0	0	1	0	242	19	1	1	0	264	265
09:00	0	0	29	3	3	2	0	37	41.1	0	0	0	0	0	0	0	0	0	0	0	32	5	0	0	0	37	37
09:15	1	0	22	2	1	1	0	27	28	0	0	0	0	0	0	0	0	0	1	0	26	3	0	0	0	30	29.2
09:30	0	0	19	2	1	1	0	23	24.8	0	0	0	0	0	0	0	0	0	0	1	11	3	0	0	0	15	14.4
09:45	0	0	26	3	0	1	0	30	31.3	0	0	0	0	0	0	0	0	0	0	0	28	3	1	0	0	32	32.5
H/TOT	1	0	96	10	5	5	0	117	125.2	0	0	0	0	0	0	0	0	0	1	1	97	14	1	0	0	114	113.1
10:00	0	0	19	3	1	1	0	24	25.8	0	0	0	0	0	0	0	0	0	0	0	20	2	0	0	0	22	22
10:15	0	0	26	2	1	1	0	30	31.8	0	0	0	0	0	0	0	0	0	0	0	21	3	0	0	0	24	24
10:30	0	0	24	5	1	1	0	31	32.8	0	0	0	0	0	0	0	0	0	0	0	12	2	0	0	0	14	14
10:45	0	0	23	2	1	1	0	27	28.8	0	0	0	0	0	0	0	0	0	0	0	20	3	0	0	0	23	23
H/TOT	0	0	92	12	4	4	0	112	119.2	0	0	0	0	0	0	0	0	0	0	0	73	10	0	0	0	83	83
11:00	0	0	17	2	2	0	0	21	22	0	0	0	0	0	0	0	0	0	0	0	21	2	1	0	0	24	24.5
11:15	0	0	31	6	1	0	0	38	38.5	0	0	0	0	0	0	0	0	0	0	0	19	2	2	0	0	23	24
11:30	0	0	29	1	0	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	25	5	0	1	0	31	32.3
11:45	0	0	22	2	1	1	0	26	27.8	0	0	0	0	0	0	0	0	0	0	0	17	4	0	0	0	21	21
H/TOT	0	0	99	11	4	1	0	115	118.3	0	0	0	0	0	0	0	0	0	0	0	82	13	3	1	0	99	101.8
12:00	0	1	16	3	1	0	0	21	20.9	0	0	0	0	0	0	0	0	0	0	0	22	1	0	0	0	23	23
12:15	0	0	30	4	1	0	0	35	35.5	0	0	0	0	0	0	0	0	0	0	0	26	1	1	0	0	28	28.5
12:30	0	0	24	3	0	0	0	27	27	0	0	0	0	0	0	0	0	0	0	0	35	3	1	0	0	39	39.5
12:45	0	1	31	2	0	1	0	35	35.7	0	0	0	0	0	0	0	0	0	0	0	32	3	0	0	0	35	35
H/TOT	0	2	101	12	2	1	0	118	119.1	0	0	0	0	0	0	0	0	0	0	0	115	8	2	0	0	125	126
13:00	1	0	32	0	1	0	0	34	33.7	0	0	0	0	0	0	0	0	0	0	0	24	5	0	0	0	29	29
13:15	0	0	45	3	1	2	0	51	54.1	0	0	0	0	0	0	0	0	0	1	0	34	10	1	0	0	46	45.7
13:30	0	0	26	4	0	0	0	30	30	0	0	0	0	0	0	0	0	0	0	0	32	1	0	0	0	33	33
13:45	0	0	32	6	1	0	0	39	39.5	0	0	0	0	0	0	0	0	0	0	0	37	2	0	0	0	39	39
H/TOT	1	0	135	13	3	2	0	154	157.3	0	0	0	0	0	0	0	0	0	1	0	127	18	1	0	0	147	146.7
14:00	0	0	31	3	0	1	0	35	36.3	0	0	0	0	0	0	0	0	0	0	0	40	2	1	0	0	43	43.5
14:15	1	0	44	3	1	0	0	49	48.7	0	0	0	0	0	0	0	0	0	0	0	56	6	1	0	0	63	63.5
14:30	0	0	21	2	0	1	0	24	25.3	0	0	0	0	0	0	0	0	0	1	0	26	2	1	0	0	30	29.7
14:45	0	0	18	0	1	2	0	21	24.1	0	0	0	0	0	0	0	0	0	0	0	18	4	0	0	0	22	22
H/TOT	1	0	114	8	2	4	0	129	134.4	0	0	0	0	0	0	0	0	0	1	0	140	14	3	0	0	158	158.7
15:00	0	0	47	2	2	0	0	51	52	0	0	0	0	0	0	0	0	0	0	0	36	0	1	1	0	38	39.8
15:15	0	0	41	3	0	0	1	45	46	0	0	0	0	0	0	0	0	0	0	0	28	4	0	0	0	32	32
15:30	0	0	40	3	0	0	0	43	43	0	0	0	0	0	0	0	0	0	0	0	52	6	0	0	0	58	58
15:45	0	0	33	1	1	0	0	35	35.5	0	0	0	0	0	0	0	0	0	0	0	72	2	0	0	0	74	74
H/TOT	0	0	161	9	3	0	1	174	176.5	0	0	0	0	0	0	0	0	0	0	0	188	12	1	1	0	202	203.8
16:00	0	0	38	1	0	0	0	39	39	0	0	0	0	0	0	0	0	0	0	0	35	7	0	0	0	42	42
16:15	1	0	41	7	0	0	1	50	50.2	0	0	0	0	0	0	0	0	0	1	0	62	9	0	0	0	72	71.2
16:30	1	0	39	1	0	0	0	41	40.2	0	0	0	0	0	0	0	0	0	2	0	61	9	0	0	0	72	70.4
16:45	0	0	42	5	1	0	0	48	48.5	0	0	0	0	0	0	0	0	0	0	1	61	8	0	0	0	70	69.4
H/TOT	2	0	160	14	1	0	1	178	177.9	0	0	0	0	0	0	0	0	0	3	1	219	33	0	0	0	256	253
17:00	1	2	41	5	0	0	1	50	49	0	0	0	0	0	0	0	0	0	0	0	75	6	0	0	0	81	81
17:15	2	1	48	3	0	0	0	54	51.8	0	0	0	0	0	0	0	0	0	0	0	76	8	0	0	0	84	84
17:30	4	0	50	3	0	0	0	57	53.8	0	0	0	0	0	0	0	0	0	1	0	69	3	0	0	0	73	72.2
17:45	3	1	45	1	0	0	0	50	47	0	0	0	0	0	0	0	0	0	0	3	87	4	0	0	0	94	92.2
H/TOT	10	4	184	12	0	0	1	211	201.6	0	0	0	0	0	0	0	0	0	1	3	307	21	0	0	0	332	329.4
18:00	3	1	54	4	0	0	1	63	61	0	0	0	0	0	0	0	0	0	0	5	79	4	0	0	0	88	85
18:15	0	1	48	4	0	0	0	53	52.4	0	0	0	0	0	0	0	0	0	1	0	83	4	0	0	0	88	87.2
18:30	0	0	58	0	1	0	0	59	59.5	0	0	0	0	0	0	0	0	0	0	0	60	3	0	0	0	63	63
18:45	1	0	42	4	0	0	0	47	46.2	0	0	0	0	0	0	0	0	0	0	0	86	2	0	0	0	88	88
H/TOT	4	2	202	12	1	0	1	222	219.1	0	0	0	0	0	0	0	0	0	1	5	308	13	0	0	0	327	323.2
12 TOT	25	8	1651	161	30	18	5	1898	1917	0	0	0	0	0	0	0	0	0	10	11	1937	188	12	6	0	2164	2163

	C => A									C => B									C => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	1	0	37	5	0	0	0	43	42.2	0	0	21	2	0	0	0	23	23	0	0	0	0	0	0	0	0	0
07:15	1	0	42	13	0	3	0	59	62.1	0	1	25	1	0	0	0	27	26.4	0	0	0	0	0	0	0	0	0
07:30	0	0	64	12	1	0	0	77	77.5	0	0	29	6	0	1	0	36	37.3	0	0	0	0	0	0	0	0	0
07:45	1	0	87	5	1	0	0	94	93.7	1	0	43	6	1	1	0	52	53	0	0	0	0	0	0	0	0	0
H/TOT	3	0	230	35	2	3	0	273	275.5	1	1	118	15	1	2	0	138	139.7	0	0	0	0	0	0	0	0	0
08:00	0	0	75	2	3	1	0	81	83.8	0	2	49	3	0	0	0	54	52.8	0	0	0	0	0	0	0	0	0
08:15	0	0	66	4	2	0	1	73	75	0	0	45	3	0	2	0	50	52.6	0	0	0	0	0	0	0	0	0
08:30	0	0	70	5	2	0	0	77	78	0	1	34	2	0	0	0	37	36.4	0	0	0	0	0	0	0	0	0
08:45	0	0	60	7	2	0	0	69	70	1	1	42	3	0	0	0	47	45.6	0	0	0	0	0	0	0	0	0
H/TOT	0	0	271	18	9	1	1	300	306.8	1	4	170	11	0	2	0	188	187.4	0	0	0	0	0	0	0	0	0
09:00	1	0	52	5	1	0	0	59	58.7	0	0	39	4	0	0	0	43	43	0	0	0	0	0	0	0	0	0
09:15	0	0	28	4	2	1	0	35	37.3	1	2	35	6	0	0	0	44	42	0	0	0	0	0	0	0	0	0
09:30	0	0	28	5	0	0	0	33	33	0	1	25	2	1	0	0	29	28.9	0	0	0	0	0	0	0	0	0
09:45	0	0	27	3	2	0	0	32	33	0	0	24	1	0	0	0	25	25	0	0	0	0	0	0	0	0	0
H/TOT	1	0	135	17	5	1	0	159	162	1	3	123	13	1	0	0	141	138.9	0	0	0	0	0	0	0	0	0
10:00	0	0	17	2	1	0	0	20	20.5	0	0	14	3	1	1	0	19	20.8	0	0	0	0	0	0	0	0	0
10:15	0	0	30	10	0	0	0	40	40	0	0	21	5	0	0	0	26	26	0	0	0	0	0	0	0	0	0
10:30	1	0	28	2	1	1	0	33	34	0	1	20	3	0	0	0	24	23.4	0	0	0	0	0	0	0	0	0
10:45	0	0	33	3	0	0	0	36	36	1	0	18	3	1	0	0	23	22.7	0	0	0	0	0	0	0	0	0
H/TOT	1	0	108	17	2	1	0	129	130.5	1	1	73	14	2	1	0	92	92.9	0	0	0	0	0	0	0	0	0
11:00	0	0	35	2	1	0	0	38	38.5	1	0	24	9	0	0	0	34	33.2	0	0	0	0	0	0	0	0	0
11:15	2	0	24	2	1	0	0	29	27.9	0	0	17	1	0	0	0	18	18	0	0	0	0	0	0	0	0	0
11:30	0	1	29	3	0	0	0	33	32.4	0	0	27	4	0	0	0	31	31	0	0	0	0	0	0	0	0	0
11:45	0	1	15	4	1	1	0	22	23.2	0	0	21	2	0	1	0	24	25.3	0	0	0	0	0	0	0	0	0
H/TOT	2	2	103	11	3	1	0	122	122	1	0	89	16	0	1	0	107	107.5	0	0	0	0	0	0	0	0	0
12:00	0	0	36	5	0	1	0	42	43.3	0	0	16	4	1	0	0	21	21.5	0	0	0	0	0	0	0	0	0
12:15	0	0	41	5	1	0	0	47	47.5	0	0	17	1	2	0	0	20	21	0	0	0	0	0	0	0	0	0
12:30	0	0	40	1	1	0	0	42	42.5	0	0	22	4	0	0	0	26	26	0	0	0	0	0	0	0	0	0
12:45	1	0	44	3	1	0	0	49	48.7	0	0	23	3	2	0	0	28	29	0	0	0	0	0	0	0	0	0
H/TOT	1	0	161	14	3	1	0	180	182	0	0	78	12	5	0	0	95	97.5	0	0	0	0	0	0	0	0	0
13:00	0	0	35	1	0	0	0	36	36	0	0	24	2	0	0	0	26	26	0	0	0	0	0	0	0	0	0
13:15	0	0	48	4	1	0	0	53	53.5	0	0	17	3	1	0	0	21	21.5	0	0	0	0	0	0	0	0	0
13:30	0	0	31	3	1	2	0	37	40.1	0	0	23	3	0	0	0	26	26	0	0	0	0	0	0	0	0	0
13:45	0	0	32	3	1	3	0	39	43.4	0	0	26	4	1	0	0	31	31.5	0	0	0	0	0	0	0	0	0
H/TOT	0	0	146	11	3	5	0	165	173	0	0	90	12	2	0	0	104	105	0	0	0	0	0	0	0	0	0
14:00	1	0	29	3	0	0	0	33	32.2	0	0	27	0	1	0	0	28	28.5	0	0	0	0	0	0	0	0	0
14:15	1	1	40	4	1	0	0	47	46.1	1	0	18	0	0	0	0	19	18.2	0	0	0	0	0	0	0	0	0
14:30	1	0	46	6	1	1	0	55	56	0	0	31	7	0	0	0	38	38	0	0	0	0	0	0	0	0	0
14:45	0	1	50	0	2	1	0	54	55.7	1	0	34	0	0	0	0	35	34.2	0	0	0	0	0	0	0	0	0
H/TOT	3	2	165	13	4	2	0	189	190	2	0	110	7	1	0	0	120	118.9	0	0	0	0	0	0	0	0	0
15:00	0	0	44	3	0	0	0	47	47	0	0	28	5	0	0	0	33	33	0	0	0	0	0	0	0	0	0
15:15	0	0	47	2	1	1	0	51	52.8	0	0	23	3	1	0	0	27	27.5	0	0	0	0	0	0	0	0	0
15:30	0	0	44	1	0	0	0	45	45	0	0	22	5	2	0	0	29	30	0	0	0	0	0	0	0	0	0
15:45	0	1	60	5	0	0	0	66	65.4	0	0	21	2	0	0	0	23	23	0	0	0	0	0	0	0	0	0
H/TOT	0	1	195	11	1	1	0	209	210.2	0	0	94	15	3	0	0	112	113.5	0	0	0	0	0	0	0	0	0
16:00	0	0	52	1	0	0	0	53	53	0	0	59	4	2	0	0	65	66	0	0	0	0	0	0	0	0	0
16:15	0	0	70	4	3	0	0	77	78.5	0	0	32	4	0	0	0	36	36	0	0	0	0	0	0	0	0	0
16:30	0	0	40	5	0	0	1	46	47	0	2	36	3	0	0	0	41	39.8	0	0	0	0	0	0	0	0	0
16:45	0	0	52	3	1	0	0	56	56.5	0	1	24	1	0	0	0	26	25.4	0	0	0	0	0	0	0	0	0
H/TOT	0	0	214	13	4	0	1	232	235	0	3	151	12	2	0	0	168	167.2	0	0	0	0	0	0	0	0	0
17:00	0	0	49	6	0	0	0	55	55	0	0	32	3	1	0	0	36	36.5	0	0	0	0	0	0	0	0	0
17:15	1	0	61	5	0	0	0	67	66.2	0	0	27	2	0	0	0	29	29	0	0	0	0	0	0	0	0	0
17:30	0	0	60	4	0	0	0	64	64	4	0	42	1	1	0	0	48	45.3	0	0	0	0	0	0	0	0	0
17:45	0	0	58	5	2	0	0	65	66	0	0	34	2	0	0	0	36	36	0	0	0	0	0	0	0	0	0
H/TOT	1	0	228	20	2	0	0	251	251.2	4	0	135	8	2	0	0	149	146.8	0	0	0	0	0	0	0	0	0
18:00	1	0	57	3	1	0	0	62	61.7	0	1	34	4	0	0	1	40	40.4	0	0	0	0	0	0	0	0	0
18:15	2	0	53	1	0	0	0	56	54.4	1	0	30	1	0	0	0	32	31.2	0	0	0	0	0	0	0	0	0
18:30	0	0	44	3	0	0	0	47	47	0	0	23	1	0	0	0	24	24	0	0	0	0	0	0	0	0	0
18:45	0	1	50	1	0	0	0	52	51.4	0	0	27	1	0	0	0	28	28	0	0	0	0	0	0	0	0	0
H/TOT	3	1	204	8	1	0	0	217	214.5	1	1	114	7	0	0	1	124	123.6	0	0	0	0	0	0	0	0	0
12 TOT	15	6	2160	188	39	16	2	2426	2453	12	13	1345	142	19	6	1	1538	1539	0	0	0	0	0	0	0	0	0



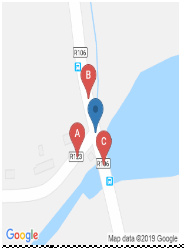
IDASO

Survey Name: 036 19051 Portmarnock
Site: Site 2
Location: R106 Strand Road/R106 Coast Road/Station Road
Date: 26-Feb-2019

	A => A									A => B									A => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	2	0	54	6	0	0	2	64	64.4	1	0	31	2	0	0	0	34	33.2
07:15	0	0	0	0	0	0	0	0	0	3	0	64	7	2	0	2	78	78.6	2	0	50	4	1	0	0	57	55.9
07:30	0	0	0	0	0	0	0	0	0	4	1	68	6	0	0	2	81	79.2	2	0	76	3	1	0	0	82	80.9
07:45	0	0	1	0	0	0	0	1	1	5	0	93	10	1	0	5	114	115.5	1	0	61	2	0	0	1	65	65.2
H/TOT	0	0	1	0	0	0	0	1	1	14	1	279	29	3	0	11	337	337.7	6	0	218	11	2	0	1	238	235.2
08:00	0	0	1	0	0	0	0	1	1	4	2	98	10	2	0	4	120	120.6	0	0	60	0	1	0	0	61	61.5
08:15	0	0	0	0	0	0	0	0	0	4	0	111	5	0	0	5	125	126.8	1	0	35	1	1	0	0	38	37.7
08:30	0	0	0	0	0	0	0	0	0	3	1	94	6	3	0	0	107	105.5	0	0	34	3	0	0	0	37	37
08:45	0	0	1	0	0	0	0	1	1	2	0	109	4	1	0	0	116	114.9	0	0	50	1	0	0	0	51	51
H/TOT	0	0	2	0	0	0	0	2	2	13	3	412	25	6	0	9	468	467.8	1	0	179	5	2	0	0	187	187.2
09:00	0	0	1	0	0	0	0	1	1	1	1	105	7	1	0	2	117	118.1	2	0	51	3	1	0	0	57	55.9
09:15	0	0	0	0	0	0	0	0	0	0	0	72	8	3	0	2	85	88.5	1	0	28	3	0	0	0	32	31.2
09:30	0	0	0	0	0	0	0	0	0	0	1	59	12	2	0	0	74	74.4	0	0	27	1	2	0	0	30	31
09:45	0	0	0	0	0	0	0	0	0	2	1	65	4	1	0	3	76	77.3	0	0	30	5	0	0	0	35	35
H/TOT	0	0	1	0	0	0	0	1	1	3	3	301	31	7	0	7	352	358.3	3	0	136	12	3	0	0	154	153.1
10:00	0	0	0	0	0	0	0	0	0	0	0	68	4	3	0	0	75	76.5	1	0	28	7	0	0	0	36	35.2
10:15	0	0	0	0	0	0	0	0	0	4	0	64	4	1	0	2	75	74.3	2	0	24	5	1	1	0	33	33.2
10:30	0	0	1	0	0	0	0	1	1	1	1	62	5	1	0	0	70	69.1	0	0	24	3	0	1	0	28	29.3
10:45	0	0	0	0	0	0	0	0	0	3	0	48	13	4	0	1	69	69.6	0	0	26	4	0	0	0	30	30
H/TOT	0	0	1	0	0	0	0	1	1	8	1	242	26	9	0	3	289	289.5	3	0	102	19	1	2	0	127	127.7
11:00	0	0	0	0	0	0	0	0	0	1	1	49	8	3	0	0	62	62.1	2	0	23	2	1	0	0	28	26.9
11:15	0	0	0	0	0	0	0	0	0	1	0	50	6	1	0	3	61	63.7	0	0	27	3	0	1	0	31	32.3
11:30	0	0	0	0	0	0	0	0	0	1	1	54	11	2	0	1	70	70.6	0	0	22	4	0	0	0	26	26
11:45	0	0	1	0	0	0	0	1	1	1	0	56	5	1	0	0	63	62.7	1	1	38	4	1	0	0	45	44.1
H/TOT	0	0	1	0	0	0	0	1	1	4	2	209	30	7	0	4	256	259.1	3	1	110	13	2	1	0	130	129.3
12:00	0	0	0	0	0	0	0	0	0	4	0	58	8	1	0	1	72	70.3	0	0	34	1	0	0	0	35	35
12:15	0	0	0	0	0	0	0	0	0	1	1	72	8	1	0	2	85	86.1	0	0	38	8	0	0	0	46	46
12:30	0	0	0	0	0	0	0	0	0	3	4	65	10	1	0	1	84	80.7	1	0	25	1	1	0	0	28	27.7
12:45	0	0	1	0	0	0	0	1	1	4	0	63	3	1	0	1	72	70.3	0	0	22	2	0	0	0	24	24
H/TOT	0	0	1	0	0	0	0	1	1	12	5	258	29	4	0	5	313	307.4	1	0	119	12	1	0	0	133	132.7
13:00	0	0	1	0	0	0	0	1	1	2	0	86	4	1	0	0	93	91.9	1	1	39	2	0	0	1	44	43.6
13:15	0	0	0	0	0	0	0	0	0	2	3	66	6	0	0	2	79	77.6	0	0	29	1	2	0	0	32	33
13:30	0	0	0	0	0	0	0	0	0	2	0	84	8	0	0	1	95	94.4	0	0	53	3	0	0	1	57	58
13:45	0	0	0	0	0	0	0	0	0	1	0	80	3	1	0	3	88	90.7	0	0	41	0	1	0	0	42	42.5
H/TOT	0	0	1	0	0	0	0	1	1	7	3	316	21	2	0	6	355	354.6	1	1	162	6	3	0	2	175	177.1
14:00	0	0	0	0	0	0	0	0	0	1	1	62	7	1	0	1	73	73.1	0	0	25	3	1	0	0	29	29.5
14:15	0	0	2	0	0	0	0	2	2	0	1	88	8	0	0	3	100	102.4	0	0	25	2	0	0	0	27	27
14:30	0	0	0	0	0	0	0	0	0	0	0	83	3	2	0	0	88	89	3	0	64	6	1	1	0	75	74.4
14:45	1	0	0	0	0	0	0	1	0.2	1	2	95	10	0	0	2	110	110	2	0	45	1	1	0	0	49	47.9
H/TOT	1	0	2	0	0	0	0	3	2.2	2	4	328	28	3	0	6	371	374.5	5	0	159	12	3	1	0	180	178.8
15:00	0	0	1	0	0	0	0	1	1	1	0	92	5	1	0	0	99	98.7	1	0	48	4	0	0	0	53	52.2
15:15	0	0	0	0	0	0	0	0	0	2	0	78	7	0	0	2	89	89.4	1	0	31	2	2	0	0	36	36.2
15:30	0	0	1	0	0	0	0	1	1	0	1	86	3	1	0	0	91	90.9	0	0	44	3	1	0	0	48	48.5
15:45	0	0	1	0	0	0	0	1	1	3	0	62	5	1	0	3	74	75.1	0	0	37	0	0	0	0	37	37
H/TOT	0	0	3	0	0	0	0	3	3	6	1	318	20	3	0	5	353	354.1	2	0	160	9	3	0	0	174	173.9
16:00	0	0	0	0	0	0	0	0	0	0	1	76	8	0	0	0	85	84.4	1	0	59	2	0	0	1	63	63.2
16:15	0	0	0	0	0	0	0	0	0	1	1	78	10	0	0	1	91	90.6	0	0	38	1	0	0	0	39	39
16:30	0	0	2	0	0	0	0	2	2	1	0	76	6	0	0	3	86	88.2	0	0	39	3	0	0	0	42	42
16:45	0	0	0	0	0	0	0	0	0	0	1	72	8	1	0	1	83	83.9	0	0	45	2	1	0	0	48	48.5
H/TOT	0	0	2	0	0	0	0	2	2	2	3	302	32	1	0	5	345	347.1	1	0	181	8	1	0	1	192	192.7
17:00	0	0	0	0	0	0	0	0	0	1	0	68	5	1	0	1	76	76.7	0	0	44	4	0	0	0	48	48
17:15	0	0	1	0	0	0	0	1	1	0	0	78	6	0	0	4	88	92	0	0	48	2	0	0	0	50	50
17:30	0	0	2	0	0	0	0	2	2	1	0	67	2	0	0	1	71	71.2	0	0	40	4	1	0	0	45	45.5
17:45	0	0	0	0	0	0	0	0	0	1	0	62	1	0	0	1	65	65.2	1	0	38	3	0	0	0	42	41.2
H/TOT	0	0	3	0	0	0	0	3	3	3	0	275	14	1	0	7	300	305.1	1	0	170	13	1	0	0	185	184.7
18:00	0	0	0	0	0	0	0	0	0	0	4	71	3	0	0	2	80	79.6	0	0	37	3	1	0	0	41	41.5
18:15	0	0	0	0	0	0	0	0	0	1	0	57	3	0	0	2	63	64.2	1	0	46	2	1	0	0	50	49.7
18:30	0	0	0	0	0	0	0	0	0	2	0	60	1	0	0	1	64	63.4	0	0	45	1	0	0	0	46	46
18:45	0	0	0	0	0	0	0	0	0	0	0	57	4	0	0	2	63	65	0	1	36	2	0	0	0	39	38.4
H/TOT	0	0	0	0	0	0	0	0	0	3	4	245	11	0	0	7	270	272.2	1	1	164	8	2	0	0	176	175.6
12 TOT	1	0	18	0	0	0	0	19	18.2	77	30	3485	296	46	0	75	4009	4027	28	3	1860	128	24	4	4	2051	2048

	B => A									B => B									B => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	1	1	9	2	0	0	4	17	19.6	0	0	0	0	0	0	0	0	0	1	0	7	0	0	0	0	8	7.2
07:15	0	0	13	4	2	0	2	21	24	0	0	2	0	0	0	0	2	2	0	0	10	4	1	1	0	16	17.8
07:30	0	0	14	7	2	0	1	24	26	0	0	0	0	0	0	0	0	0	1	0	16	2	1	2	0	22	24.3
07:45	0	0	34	9	0	0	3	46	49	0	0	0	0	0	0	0	0	0	0	0	30	2	0	1	0	33	34.3
H/TOT	1	1	70	22	4	0	10	108	118.6	0	0	2	0	0	0	0	2	2	2	0	63	8	2	4	0	79	83.6
08:00	2	0	34	4	0	0	0	40	38.4	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	23	23
08:15	1	0	57	5	1	0	1	65	65.7	0	0	0	0	0	0	0	0	0	0	0	22	1	0	0	0	23	23
08:30	1	0	72	3	0	0	2	78	79.2	0	0	0	0	0	0	0	0	0	0	0	29	1	1	0	0	31	31.5
08:45	2	0	49	4	2	0	2	59	60.4	0	0	0	1	0	0	0	1	1	1	0	16	1	1	0	0	19	18.7
H/TOT	6	0	212	16	3	0	5	242	243.7	0	0	0	1	0	0	0	1	1	1	0	90	3	2	0	0	96	96.2
09:00	4	0	51	10	0	0	0	65	61.8	0	0	1	0	0	0	0	1	1	0	0	21	1	1	0	0	23	23.5
09:15	0	1	31	7	4	0	1	44	46.4	0	0	1	1	0	0	0	2	2	0	0	18	2	2	0	0	22	23
09:30	3	0	45	5	2	0	1	56	55.6	0	0	0	0	0	0	0	0	0	0	0	15	2	0	0	0	17	17
09:45	1	0	33	5	2	0	2	43	45.2	0	0	0	0	0	0	0	0	0	0	0	13	1	1	1	0	16	17.8
H/TOT	8	1	160	27	8	0	4	208	209	0	0	2	1	0	0	0	3	3	0	0	67	6	4	1	0	78	81.3
10:00	3	0	39	9	0	0	0	51	48.6	0	0	0	0	0	0	0	0	0	0	0	17	1	0	3	0	21	24.9
10:15	0	0	35	4	1	0	1	41	42.5	0	0	0	0	0	0	0	0	0	0	0	12	1	2	1	0	16	18.3
10:30	1	2	53	4	2	0	0	62	61	0	0	0	0	0	0	0	0	0	0	0	19	5	0	1	0	25	26.3
10:45	0	0	39	9	2	0	2	52	55	0	0	0	0	0	0	0	0	0	0	0	17	3	0	0	0	20	20
H/TOT	4	2	166	26	5	0	3	206	207.1	0	0	0	0	0	0	0	0	0	0	0	65	10	2	5	0	82	89.5
11:00	2	0	48	7	1	0	0	58	56.9	0	0	0	0	0	0	0	0	0	0	0	23	9	0	1	0	33	34.3
11:15	0	0	50	4	3	0	1	58	60.5	0	0	0	0	0	0	0	0	0	0	0	14	1	2	0	0	17	18
11:30	3	1	67	11	0	0	2	84	83	0	0	0	0	0	0	0	0	0	1	1	21	2	0	3	0	28	30.5
11:45	2	0	46	8	4	0	3	63	66.4	0	0	1	0	0	0	0	1	1	0	0	20	2	1	2	0	25	28.1
H/TOT	7	1	211	30	8	0	6	263	266.8	0	0	1	0	0	0	0	1	1	1	1	78	14	3	6	0	103	110.9
12:00	4	0	58	12	1	0	0	75	72.3	0	0	0	0	0	0	0	0	0	0	0	19	1	0	2	0	22	24.6
12:15	5	2	64	6	3	0	1	81	78.3	0	0	0	0	0	0	0	0	0	0	0	15	2	1	1	0	19	20.8
12:30	1	0	53	5	3	0	0	62	62.7	0	0	0	0	0	0	0	0	0	0	0	34	2	1	0	0	37	37.5
12:45	1	0	70	6	1	1	2	81	84	0	0	0	0	0	0	0	0	0	1	0	12	1	1	1	0	16	17
H/TOT	11	2	245	29	8	1	3	299	297.3	0	0	0	0	0	0	0	0	0	1	0	80	6	3	4	0	94	99.9
13:00	0	0	80	8	2	0	0	90	91	0	0	1	0	0	0	0	1	1	0	0	30	2	0	0	0	32	32
13:15	3	0	50	3	1	0	2	59	59.1	0	0	0	0	0	0	0	0	0	0	0	20	1	0	1	0	22	23.3
13:30	2	0	65	10	0	0	1	78	77.4	0	0	0	0	0	0	0	0	0	3	0	27	3	0	0	0	33	30.6
13:45	2	0	68	5	2	0	3	80	82.4	0	0	0	0	0	0	0	0	0	0	0	20	5	0	0	0	25	25
H/TOT	7	0	263	26	5	0	6	307	309.9	0	0	1	0	0	0	0	1	1	3	0	97	11	0	1	0	112	110.9
14:00	3	0	49	6	1	0	0	59	57.1	0	0	0	0	0	0	0	0	0	1	0	24	3	0	2	0	30	31.8
14:15	0	0	75	4	1	0	2	82	84.5	0	0	0	0	0	0	0	0	0	0	0	15	1	1	1	0	18	19.8
14:30	3	0	60	5	1	0	2	71	71.1	0	0	0	0	0	0	0	0	0	0	0	25	3	2	1	0	31	33.3
14:45	3	0	86	2	4	0	4	99	102.6	0	0	0	0	0	0	0	0	0	0	0	29	0	0	0	0	29	29
H/TOT	9	0	270	17	7	0	8	311	315.3	0	0	0	0	0	0	0	0	0	1	0	93	7	3	4	0	108	113.9
15:00	2	1	53	4	2	0	0	62	60.8	0	0	1	0	0	0	0	1	1	0	0	20	2	1	1	0	24	25.8
15:15	1	1	85	7	2	0	3	99	101.6	0	0	0	0	0	0	0	0	0	0	0	26	4	1	0	0	31	31.5
15:30	1	0	69	6	5	0	1	82	84.7	0	0	0	0	0	0	0	0	0	0	0	30	1	0	2	0	33	35.6
15:45	2	0	73	7	3	0	3	88	90.9	0	0	0	0	0	0	0	0	0	0	0	24	6	1	0	0	31	31.5
H/TOT	6	2	280	24	12	0	7	331	338	0	0	1	0	0	0	0	1	1	0	0	100	13	3	3	0	119	124.4
16:00	1	0	101	8	1	0	1	112	112.7	0	0	0	0	0	0	0	0	0	0	0	40	5	0	0	0	45	45
16:15	2	0	70	5	0	0	3	80	81.4	0	0	0	0	0	0	0	0	0	0	0	44	4	1	0	0	49	49.5
16:30	1	2	94	11	1	0	1	110	109.5	0	0	1	0	0	0	0	1	1	0	0	38	6	0	1	0	45	46.3
16:45	0	0	78	7	1	0	2	88	90.5	0	0	0	0	0	0	0	0	0	0	0	38	3	1	0	0	42	42.5
H/TOT	4	2	343	31	3	0	7	390	394.1	0	0	1	0	0	0	0	1	1	0	0	160	18	2	1	0	181	183.3
17:00	3	1	75	7	2	0	2	90	90	0	0	0	0	0	0	0	0	0	1	0	32	5	0	0	0	38	37.2
17:15	3	2	81	8	1	0	2	97	95.9	0	0	0	0	0	0	0	0	0	0	1	24	6	1	0	0	32	31.9
17:30	4	0	74	3	2	0	1	84	82.8	0	0	0	0	0	0	0	0	0	1	0	34	3	0	0	0	38	37.2
17:45	8	1	79	2	0	0	2	92	87	0	0	0	0	0	0	0	0	0	2	0	29	1	1	0	0	33	31.9
H/TOT	18	4	309	20	5	0	7	363	355.7	0	0	0	0	0	0	0	0	0	4	1	119	15	2	0	0	141	138.2
18:00	4	1	64	2	0	0	1	72	69.2	0	0	0	0	0	0	0	0	0	1	0	21	3	0	0	0	25	24.2
18:15	4	0	84	4	0	0	2	94	92.8	0	0	0	0	0	0	0	0	0	0	0	22	1	0	0	0	23	23
18:30	5	2	73	5	0	0	2	87	83.8	0	0	0	0	0	0	0	0	0	0	0	24	2	0	0	0	26	26
18:45	0	0	79	4	0	0	2	85	87	0	0	0	1	0	0	0	1	1	2	0	15	0	0	0	0	17	15.4
H/TOT	13	3	300	15	0	0	7	338	332.8	0	0	0	1	0	0	0	1	1	3	0	82	6	0	0	0	91	88.6
12 TOT	94	18	2829	283	68	1	73	3366	3388	0	0	8	3	0	0	0	11	11	16	2	1094	117	26	29	0	1284	1321

	C => A									C => B									C => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	22	3	0	0	0	25	25	2	0	14	2	0	1	0	19	18.7	0	0	0	0	0	0	0	0	0
07:15	1	0	27	6	1	0	0	35	34.7	1	0	18	3	0	1	0	23	23.5	0	0	0	2	0	0	0	2	2
07:30	0	0	41	6	1	0	0	48	48.5	2	0	27	9	0	0	0	38	36.4	0	0	0	0	0	0	0	0	0
07:45	1	0	41	9	0	0	0	51	50.2	1	0	51	2	1	0	0	55	54.7	0	0	1	0	0	0	0	1	1
H/TOT	2	0	131	24	2	0	0	159	158.4	6	0	110	16	1	2	0	135	133.3	0	0	1	2	0	0	0	3	3
08:00	0	0	39	1	4	0	0	44	46	2	0	72	1	1	1	0	77	77.2	0	0	0	0	0	0	0	0	0
08:15	3	0	77	2	2	0	3	87	88.6	1	0	70	5	1	2	0	79	81.3	0	0	1	0	0	0	0	1	1
08:30	2	0	112	1	0	0	0	115	113.4	0	0	59	6	1	2	0	68	71.1	0	0	0	0	0	0	0	0	0
08:45	0	0	54	2	0	0	0	56	56	0	1	45	4	2	0	0	52	52.4	0	0	0	0	0	0	0	0	0
H/TOT	5	0	282	6	6	0	3	302	304	3	1	246	16	5	5	0	276	282	0	0	1	0	0	0	0	1	1
09:00	0	0	50	5	2	0	0	57	58	0	0	35	2	1	0	0	38	38.5	0	0	0	0	0	0	0	0	0
09:15	0	0	35	4	1	0	0	40	40.5	0	0	21	3	2	1	0	27	29.3	0	0	0	0	0	0	0	0	0
09:30	0	0	37	1	1	0	0	39	39.5	0	0	18	2	1	0	0	21	21.5	0	0	0	0	0	0	0	0	0
09:45	0	0	39	5	1	0	0	45	45.5	0	0	13	1	1	1	0	16	17.8	0	0	0	0	0	0	0	0	0
H/TOT	0	0	161	15	5	0	0	181	183.5	0	0	87	8	5	2	0	102	107.1	0	0	0	0	0	0	0	0	0
10:00	2	0	31	4	1	0	0	38	36.9	0	0	15	2	0	1	0	18	19.3	0	0	0	0	0	0	0	0	0
10:15	1	0	36	5	0	0	0	42	41.2	0	0	20	4	1	2	0	27	30.1	0	0	1	0	0	0	0	1	1
10:30	1	0	34	7	1	0	0	43	42.7	1	0	18	1	1	3	0	24	27.6	0	0	0	0	0	0	0	0	0
10:45	0	0	37	4	1	0	0	42	42.5	0	0	24	1	0	0	0	25	25	0	0	0	0	0	0	0	0	0
H/TOT	4	0	138	20	3	0	0	165	163.3	1	0	77	8	2	6	0	94	102	0	0	1	0	0	0	0	1	1
11:00	0	0	33	3	1	1	0	38	39.8	0	0	18	2	1	0	0	21	21.5	0	0	0	0	1	0	0	1	1.5
11:15	0	0	43	5	1	0	0	49	49.5	2	0	20	3	0	0	0	25	23.4	0	0	0	0	0	0	0	0	0
11:30	0	0	35	5	0	0	0	40	40	0	0	26	1	0	1	0	28	29.3	0	0	0	0	0	0	0	0	0
11:45	0	0	39	4	1	1	0	45	46.8	0	1	13	2	1	0	0	17	16.9	0	0	0	0	0	0	0	0	0
H/TOT	0	0	150	17	3	2	0	172	176.1	2	1	77	8	2	1	0	91	91.1	0	0	0	0	1	0	0	1	1.5
12:00	1	1	34	7	0	0	0	43	41.6	0	0	22	4	0	3	0	29	32.9	0	0	0	0	0	0	0	0	0
12:15	0	0	46	6	1	0	0	53	53.5	0	0	19	3	0	0	0	22	22	0	0	0	0	0	0	0	0	0
12:30	0	0	35	4	0	0	0	39	39	0	0	29	1	2	0	0	32	33	0	0	0	0	0	0	0	0	0
12:45	0	1	55	5	1	0	0	62	61.9	0	0	25	0	0	1	0	26	27.3	0	0	0	1	0	0	0	1	1
H/TOT	1	2	170	22	2	0	0	197	196	0	0	95	8	2	4	0	109	115.2	0	0	0	1	0	0	0	1	1
13:00	1	0	50	2	1	0	0	54	53.7	0	0	16	0	0	0	0	16	16	0	0	0	0	0	0	0	0	0
13:15	0	0	71	7	3	0	0	81	82.5	0	0	25	1	0	1	0	27	28.3	0	0	0	0	0	0	0	0	0
13:30	0	0	41	5	1	0	0	47	47.5	0	0	20	0	1	1	0	22	23.8	0	0	0	0	0	0	0	0	0
13:45	0	0	40	8	1	1	0	50	51.8	0	0	24	2	1	2	0	29	32.1	0	0	0	0	0	0	0	0	0
H/TOT	1	0	202	22	6	1	0	232	235.5	0	0	85	3	2	4	0	94	100.2	0	0	0	0	0	0	0	0	0
14:00	0	0	55	5	0	0	0	60	60	2	0	23	1	0	0	0	26	24.4	0	0	0	0	0	0	0	0	0
14:15	1	0	70	5	1	0	0	77	76.7	1	1	22	2	1	1	0	28	28.4	0	0	0	0	0	0	0	0	0
14:30	1	0	39	6	0	0	0	46	45.2	1	0	24	1	0	3	0	29	32.1	0	0	0	0	0	0	0	0	0
14:45	0	1	40	0	1	1	0	43	44.2	0	0	36	0	2	1	0	39	41.3	0	0	0	0	0	0	0	0	0
H/TOT	2	1	204	16	2	1	0	226	226.1	4	1	105	4	3	5	0	122	126.2	0	0	0	0	0	0	0	0	0
15:00	0	0	54	3	2	0	0	59	60	0	0	36	0	0	0	0	36	36	0	0	1	0	0	0	0	1	1
15:15	0	0	56	7	0	0	1	64	65	1	0	38	1	0	1	0	41	41.5	0	0	0	0	0	0	0	0	0
15:30	0	0	60	3	0	0	0	63	63	0	0	29	1	0	0	0	30	30	0	0	0	0	0	0	0	0	0
15:45	0	0	59	3	1	0	0	63	63.5	0	1	29	2	1	0	0	33	32.9	0	0	0	0	0	0	0	0	0
H/TOT	0	0	229	16	3	0	1	249	251.5	1	1	132	4	1	1	0	140	140.4	0	0	1	0	0	0	0	1	1
16:00	0	0	60	5	0	0	0	65	65	0	0	34	2	0	0	0	36	36	0	0	0	0	0	0	0	0	0
16:15	0	0	63	6	2	0	1	72	74	0	0	46	0	1	0	0	47	47.5	0	0	0	0	0	0	0	0	0
16:30	1	0	66	4	0	0	0	71	70.2	0	0	27	2	0	0	1	30	31	0	0	0	0	0	0	0	0	0
16:45	0	0	67	5	1	0	0	73	73.5	0	0	25	1	0	0	0	26	26	0	0	0	0	0	0	0	0	0
H/TOT	1	0	256	20	3	0	1	281	282.7	0	0	132	5	1	0	1	139	140.5	0	0	0	0	0	0	0	0	0
17:00	1	1	76	9	0	0	1	88	87.6	0	0	31	4	0	0	0	35	35	0	0	0	0	0	0	0	0	0
17:15	2	0	81	4	0	0	0	87	85.4	0	0	30	1	0	0	0	31	31	0	0	0	0	0	0	0	0	0
17:30	1	0	91	4	0	0	0	96	95.2	1	0	28	2	0	0	0	31	30.2	0	0	0	0	0	0	0	0	0
17:45	3	1	61	1	0	0	0	66	63	0	0	39	4	2	0	0	45	46	0	0	0	0	0	0	0	0	0
H/TOT	7	2	309	18	0	0	1	337	331.2	1	0	128	11	2	0	0	142	142.2	0	0	0	0	0	0	0	0	0
18:00	3	0	95	5	1	0	1	105	104.1	0	0	39	2	0	0	0	41	41	0	0	0	0	0	0	0	0	0
18:15	4	1	80	7	0	0	0	92	88.2	0	0	31	0	1	0	0	32	32.5	0	0	0	0	0	0	0	0	0
18:30	1	0	88	2	1	0	0	92	91.7	0	0	28	2	0	0	0	30	30	0	0	0	0	0	0	0	0	0
18:45	1	1	66	2	0	0	0	70	68.6	0	0	27	2	0	0	0	29	29	0	0	0	0	0	0	0	0	0
H/TOT	9	2	329	16	2	0	1	359	352.6	0	0	125	6	1	0	0	132	132.5	0	0	0	0	0	0	0	0	0
12 TOT	32	7	2561	212	37	4	7	2860	2861	18	4	1399	97	27	30	1	1576	1613	0	0	4	3	1	0	0	8	8.5



IDASO

Survey Name: 036 19051 Portmarnock

Site: Site 3

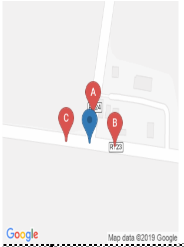
Location: R123 Moyne Road/R106 Coast Road

Date: 26-Feb-2019

	A => A									A => B									A => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0	0	12	7	1	0	0	20	20.5
07:15	0	0	0	0	0	0	0	0	0	0	0	4	4	2	1	0	11	13.3	0	0	12	12	0	0	0	24	24
07:30	0	0	0	0	0	0	0	0	0	0	0	4	4	0	2	0	10	12.6	0	0	14	4	1	2	0	21	24.1
07:45	0	0	0	0	0	0	0	0	0	0	0	9	2	0	0	0	11	11	0	0	19	6	0	0	0	25	25
H/TOT	0	0	0	0	0	0	0	0	0	0	0	20	10	2	3	0	35	39.9	0	0	57	29	2	2	0	90	93.6
08:00	0	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	8	8	0	0	30	6	1	1	0	38	39.8
08:15	0	0	0	0	0	0	0	0	0	0	0	11	1	0	0	0	12	12	0	0	30	3	2	0	0	35	36
08:30	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	1	11	12	0	0	35	3	1	0	0	39	39.5
08:45	0	0	0	0	0	0	0	0	0	0	0	9	2	0	1	0	12	13.3	1	0	43	8	1	0	1	54	54.7
H/TOT	0	0	0	0	0	0	0	0	0	0	0	36	5	0	1	1	43	45.3	1	0	138	20	5	1	1	166	170
09:00	0	0	0	0	0	0	0	0	0	1	0	8	3	1	0	0	13	12.7	0	0	27	6	2	0	0	35	36
09:15	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	0	16	2	1	0	0	19	19.5
09:30	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	11	11	0	0	11	3	3	0	0	17	18.5
09:45	0	0	0	0	0	0	0	0	0	0	0	5	0	2	1	0	8	10.3	0	0	18	4	1	0	0	23	23.5
H/TOT	0	0	0	0	0	0	0	0	0	1	0	26	3	3	1	0	34	36	0	0	72	15	7	0	0	94	97.5
10:00	0	0	0	0	0	0	0	0	0	0	0	11	2	0	3	0	16	19.9	0	0	14	5	0	1	0	20	21.3
10:15	0	0	0	0	0	0	0	0	0	0	0	7	0	1	1	0	9	10.8	0	0	18	2	0	2	0	22	24.6
10:30	0	0	0	0	0	0	0	0	0	0	0	13	1	1	0	0	15	15.5	1	0	19	5	0	0	0	25	24.2
10:45	0	0	0	0	0	0	0	0	0	0	0	7	1	1	0	0	9	9.5	0	0	22	5	4	0	0	31	33
H/TOT	0	0	0	0	0	0	0	0	0	0	0	38	4	3	4	0	49	55.7	1	0	73	17	4	3	0	98	103.1
11:00	0	0	0	0	0	0	0	0	0	0	0	7	2	0	1	0	10	11.3	0	0	22	3	0	0	0	25	25
11:15	0	0	0	0	0	0	0	0	0	0	0	16	0	1	0	0	17	17.5	1	0	13	4	4	0	0	22	23.2
11:30	0	0	0	0	0	0	0	0	0	0	0	14	2	0	1	0	17	18.3	0	0	12	3	3	0	0	18	19.5
11:45	0	0	0	0	0	0	0	0	0	0	0	5	3	0	2	0	10	12.6	0	0	21	2	1	0	0	24	24.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	42	7	1	4	0	54	59.7	1	0	68	12	8	0	0	89	92.2
12:00	0	0	0	0	0	0	0	0	0	0	0	13	2	0	2	0	17	19.6	0	0	19	1	1	0	0	21	21.5
12:15	0	0	0	0	0	0	0	0	0	0	0	11	2	0	0	0	13	13	0	0	16	5	0	0	0	21	21
12:30	0	0	0	0	0	0	0	0	0	0	0	14	0	1	0	0	15	15.5	0	0	18	3	1	0	1	23	24.5
12:45	0	0	0	0	0	0	0	0	0	0	0	5	1	1	0	0	7	7.5	0	0	22	6	2	0	0	30	31
H/TOT	0	0	0	0	0	0	0	0	0	0	0	43	5	2	2	0	52	55.6	0	0	75	15	4	0	1	95	98
13:00	0	0	0	0	0	0	0	0	0	0	0	17	3	2	0	1	23	25	0	0	15	9	1	1	0	26	27.8
13:15	0	0	0	0	0	0	0	0	0	0	0	9	1	0	0	0	10	10	0	0	21	1	1	2	0	25	28.1
13:30	0	0	0	0	0	0	0	0	0	0	0	17	2	0	0	0	19	19	0	0	18	1	1	1	0	21	22.8
13:45	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	13	13	0	0	25	4	2	0	0	31	32
H/TOT	0	0	0	0	0	0	0	0	0	0	0	55	7	2	0	1	65	67	0	0	79	15	5	4	0	103	110.7
14:00	0	0	0	0	0	0	0	0	0	0	0	9	3	1	1	0	14	15.8	0	0	26	2	1	1	0	30	31.8
14:15	0	0	0	0	0	0	0	0	0	0	0	16	1	2	1	1	21	24.3	0	0	22	3	2	0	0	27	28
14:30	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	14	0	0	33	5	1	2	0	41	44.1
14:45	0	0	0	0	0	0	0	0	0	1	0	12	0	0	0	0	13	12.2	0	0	18	3	1	0	0	22	22.5
H/TOT	0	0	0	0	0	0	0	0	0	1	0	51	4	3	2	1	62	66.3	0	0	99	13	5	3	0	120	126.4
15:00	0	0	0	0	0	0	0	0	0	0	0	18	0	1	0	0	19	19.5	0	0	28	5	0	0	1	34	35
15:15	0	0	0	0	0	0	0	0	0	0	0	10	1	0	0	0	11	11	0	0	26	7	2	1	1	37	40.3
15:30	0	0	0	0	0	0	0	0	0	0	0	11	1	1	0	1	14	15.5	0	0	40	1	1	1	0	43	44.8
15:45	0	0	0	0	0	0	0	0	0	0	0	15	3	0	0	0	18	18	0	0	32	6	1	0	0	39	39.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	54	5	2	0	1	62	64	0	0	126	19	4	2	2	153	159.6
16:00	0	0	0	0	0	0	0	0	0	0	0	16	2	0	0	0	18	18	0	0	24	2	0	0	0	26	26
16:15	0	0	0	0	0	0	0	0	0	0	0	8	3	0	0	0	11	11	0	0	34	4	2	0	0	40	41
16:30	0	0	0	0	0	0	0	0	0	0	1	24	0	0	0	0	25	24.4	0	0	32	3	0	0	0	35	35
16:45	0	0	0	0	0	0	0	0	0	0	0	11	2	1	0	0	14	14.5	0	0	31	2	0	0	0	33	33
H/TOT	0	0	0	0	0	0	0	0	0	0	1	59	7	1	0	0	68	67.9	0	0	121	11	2	0	0	134	135
17:00	0	0	0	0	0	0	0	0	0	0	0	11	1	1	0	0	13	13.5	0	0	22	2	0	0	0	24	24
17:15	0	0	0	0	0	0	0	0	0	0	0	17	2	0	0	0	19	19	0	1	36	4	0	0	0	41	40.4
17:30	0	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	12	11.4	0	1	32	0	1	0	0	34	33.9
17:45	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	14	0	0	30	2	0	0	1	33	34
H/TOT	0	0	0	0	0	0	0	0	0	0	1	53	3	1	0	0	58	57.9	0	2	120	8	1	0	1	132	132.3
18:00	0	0	0	0	0	0	0	0	0	0	0	12	1	0	0	0	13	13	0	0	34	0	0	0	0	34	34
18:15	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	14	0	1	32	1	1	0	0	35	34.9
18:30	0	0	0	0	0	0	0	0	0	0	0	13	0	0	0	0	13	13	0	0	25	2	0	0	0	27	27
18:45	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	14	14	0	0	34	2	1	0	0	37	37.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	53	1	0	0	0	54	54	0	1	125	5	2	0	0	133	133.4
12 TOT	0	0	0	0	0	0	0	0	0	2	2	530	61	20	17	4	636	669.3	3	3	1153	179	49	15	5	1407	1452

	B => A									B => B									B => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	20	1	0	1	0	22	23.3	0	0	0	0	0	0	0	0	0	3	0	38	9	1	0	2	53	53.1
07:15	0	0	28	3	0	0	0	31	31	0	0	0	0	0	0	0	0	0	4	0	56	6	1	1	2	70	70.6
07:30	0	0	30	4	1	0	0	35	35.5	0	0	0	0	0	0	0	0	0	6	0	59	10	0	0	2	77	74.2
07:45	0	1	29	2	1	0	2	35	36.9	0	0	0	0	0	0	0	0	0	4	0	112	12	0	0	2	130	128.8
H/TOT	0	1	107	10	2	1	2	123	126.7	0	0	0	0	0	0	0	0	0	17	0	265	37	2	1	8	330	326.7
08:00	0	0	38	2	0	0	0	40	40	0	0	0	0	0	0	0	0	0	7	2	114	8	4	0	4	139	138.2
08:15	0	0	48	2	0	3	1	54	58.9	0	0	0	0	0	0	0	0	0	6	0	149	13	1	0	5	174	174.7
08:30	0	0	37	2	0	2	0	41	43.6	0	0	0	0	0	0	0	0	0	2	0	121	9	5	0	0	137	137.9
08:45	0	1	39	1	0	0	0	41	40.4	0	0	0	0	0	0	0	0	0	1	1	112	9	2	0	0	125	124.6
H/TOT	0	1	162	7	0	5	1	176	182.9	0	0	0	0	0	0	0	0	0	16	3	496	39	12	0	9	575	575.4
09:00	0	1	41	2	0	0	1	45	45.4	0	0	0	0	0	0	0	0	0	3	0	104	6	3	0	1	117	117.1
09:15	0	0	21	1	1	0	0	23	23.5	0	0	0	0	0	0	0	0	0	0	0	78	7	5	0	2	92	96.5
09:30	0	0	25	4	0	0	0	29	29	0	0	0	0	0	0	0	0	0	0	1	55	11	2	0	0	69	69.4
09:45	0	0	21	2	0	0	0	23	23	0	0	0	0	0	0	0	0	0	2	1	59	3	2	0	3	70	71.8
H/TOT	0	1	108	9	1	0	1	120	120.9	0	0	0	0	0	0	0	0	0	5	2	296	27	12	0	6	348	354.8
10:00	0	0	17	1	0	1	0	19	20.3	0	0	0	0	0	0	0	0	0	0	0	61	4	4	1	0	70	73.3
10:15	0	0	19	2	0	2	0	23	25.6	0	0	0	0	0	0	0	0	0	2	0	72	9	2	0	2	87	88.4
10:30	0	0	11	1	0	2	0	14	16.6	0	0	0	0	0	0	0	0	0	4	1	63	5	2	1	0	76	74.5
10:45	0	0	14	6	1	1	0	22	23.8	0	0	0	0	0	0	0	0	0	3	0	56	7	2	0	1	69	68.6
H/TOT	0	0	61	10	1	6	0	78	86.3	0	0	0	0	0	0	0	0	0	9	1	252	25	10	2	3	302	304.8
11:00	0	1	17	1	2	0	0	21	21.4	0	0	0	0	0	0	0	0	0	1	0	54	10	1	0	0	66	65.7
11:15	0	0	11	1	0	0	0	12	12	0	0	0	0	0	0	0	0	0	3	0	56	12	2	0	3	76	77.6
11:30	0	0	18	1	1	0	0	20	20.5	0	0	0	0	0	0	0	0	0	1	1	58	11	1	0	1	73	73.1
11:45	0	0	19	1	0	1	0	21	22.3	0	0	0	0	0	0	0	0	0	1	1	54	5	2	0	0	63	62.6
H/TOT	0	1	65	4	3	1	0	74	76.2	0	0	0	0	0	0	0	0	0	6	2	222	38	6	0	4	278	279
12:00	1	0	22	2	1	2	0	28	30.3	0	0	0	0	0	0	0	0	0	2	0	48	10	0	1	0	61	60.7
12:15	0	0	19	3	0	0	0	22	22	0	0	0	0	0	0	0	0	0	1	1	78	8	1	0	2	91	92.1
12:30	0	0	25	0	0	1	0	26	27.3	0	0	0	0	0	0	0	0	0	3	2	73	11	2	0	2	93	92.4
12:45	0	0	22	1	0	1	0	24	25.3	0	0	0	0	0	0	0	0	0	3	1	65	4	1	0	1	75	73.5
H/TOT	1	0	88	6	1	4	0	100	104.9	0	0	0	0	0	0	0	0	0	9	4	264	33	4	1	5	320	318.7
13:00	0	0	30	3	1	0	0	34	34.5	0	0	0	0	0	0	0	0	0	5	0	65	1	0	0	0	71	67
13:15	0	1	17	4	0	0	0	22	21.4	0	0	0	0	0	0	0	0	0	1	1	77	3	0	1	2	85	86.9
13:30	0	1	21	2	0	0	0	24	23.4	0	0	0	0	0	0	0	0	0	3	0	78	6	0	1	1	89	88.9
13:45	0	0	27	3	0	0	0	30	30	0	0	0	0	0	0	0	0	0	1	0	83	3	2	2	1	92	95.8
H/TOT	0	2	95	12	1	0	0	110	109.3	0	0	0	0	0	0	0	0	0	10	1	303	13	2	4	4	337	338.6
14:00	0	1	21	0	0	0	1	23	23.4	0	0	0	0	0	0	0	0	0	1	0	71	7	1	1	1	82	84
14:15	0	0	24	3	0	1	0	28	29.3	0	0	0	0	0	0	0	0	0	2	2	79	6	1	0	3	93	93.7
14:30	0	0	28	4	0	2	0	34	36.6	0	0	0	0	0	0	0	0	0	1	0	71	1	1	1	1	76	78
14:45	0	0	29	5	0	0	1	35	36	0	0	0	0	0	0	0	0	0	1	2	101	8	3	1	1	117	118.8
H/TOT	0	1	102	12	0	3	2	120	125.3	0	0	0	0	0	0	0	0	0	5	4	322	22	6	3	6	368	374.5
15:00	0	0	32	1	1	0	0	34	34.5	0	0	0	0	0	0	0	0	0	1	0	93	4	0	0	0	98	97.2
15:15	0	0	28	3	0	0	0	31	31	0	0	0	0	0	0	0	0	0	2	0	96	5	0	1	2	106	107.7
15:30	0	0	21	2	0	0	0	23	23	0	0	0	0	0	0	0	0	0	1	1	97	3	0	0	0	102	100.6
15:45	0	0	17	6	1	0	0	24	24.5	0	0	0	0	0	0	0	0	0	2	1	74	1	1	1	3	83	85.6
H/TOT	0	0	98	12	2	0	0	112	113	0	0	0	0	0	0	0	0	0	6	2	360	13	1	2	5	389	391.1
16:00	0	0	28	4	0	0	0	32	32	0	0	0	0	0	0	0	0	0	1	0	80	2	0	0	0	83	82.2
16:15	0	1	26	6	0	0	0	33	32.4	0	0	0	0	0	0	0	0	0	1	1	85	6	0	0	1	94	93.6
16:30	0	0	32	3	0	0	0	35	35	0	0	0	0	0	0	0	0	0	1	0	83	6	1	0	4	95	98.7
16:45	0	0	25	3	0	0	0	28	28	0	0	0	0	0	0	0	0	0	1	0	74	5	1	0	1	82	82.7
H/TOT	0	1	111	16	0	0	0	128	127.4	0	0	0	0	0	0	0	0	0	4	1	322	19	2	0	6	354	357.2
17:00	0	0	31	5	1	0	0	37	37.5	0	0	0	0	0	0	0	0	0	1	0	74	5	0	0	1	81	81.2
17:15	0	0	20	3	0	0	0	23	23	0	0	0	0	0	0	0	0	0	0	0	75	3	0	0	4	82	86
17:30	0	1	24	4	0	0	0	29	28.4	0	0	0	0	0	0	0	0	0	1	0	76	2	0	0	1	80	80.2
17:45	0	0	19	0	0	0	0	19	19	0	0	0	0	0	0	0	0	0	2	0	69	4	2	0	1	78	78.4
H/TOT	0	1	94	12	1	0	0	108	107.9	0	0	0	0	0	0	0	0	0	4	0	294	14	2	0	7	321	325.8
18:00	0	0	37	1	0	0	0	38	38	0	0	0	0	0	0	0	0	0	0	3	83	5	0	0	1	92	91.2
18:15	0	0	20	2	0	0	0	22	22	0	0	0	0	0	0	0	0	0	1	0	69	1	1	0	3	75	77.7
18:30	0	0	25	1	0	0	0	26	26	0	0	0	0	0	0	0	0	0	2	0	67	1	1	0	1	72	71.9
18:45	0	0	20	3	0	0	0	23	23	0	0	0	0	0	0	0	0	0	3	0	64	2	0	0	2	71	70.6
H/TOT	0	0	102	7	0	0	0	109	109	0	0	0	0	0	0	0	0	0	6	3	283	9	2	0	7	310	311.4
12 TOT	1	9	1193	117	12	20	6	1358	1390	0	0	0	0	0	0	0	0	0	97	23	3679	289	61	13	70	4232	4258

	C => A									C => B									C => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	28	3	0	0	0	31	31	1	0	16	1	0	0	4	22	25.2	0	0	0	0	0	0	0	0	0
07:15	0	0	41	1	0	0	0	42	42	0	0	17	4	1	0	2	24	26.5	0	0	0	0	0	0	0	0	0
07:30	0	0	32	1	0	0	0	33	33	1	0	28	5	2	0	1	37	38.2	0	0	0	0	0	0	0	0	0
07:45	0	0	54	0	0	0	0	54	54	0	0	60	7	0	1	3	71	75.3	0	0	0	0	0	0	0	0	0
H/TOT	0	0	155	5	0	0	0	160	160	2	0	121	17	3	1	10	154	165.2	0	0	0	0	0	0	0	0	0
08:00	0	0	45	3	0	1	0	49	50.3	2	0	54	3	0	0	0	59	57.4	0	0	0	0	0	0	0	0	0
08:15	0	0	55	1	1	0	0	57	57.5	1	0	62	5	1	0	1	70	70.7	0	0	0	0	0	0	0	0	0
08:30	1	0	73	2	1	0	0	77	76.7	1	0	90	5	1	0	1	98	98.7	0	0	0	0	0	0	0	0	0
08:45	0	0	56	4	1	0	2	63	65.5	3	0	58	6	2	0	2	71	71.6	0	0	0	0	0	0	0	0	0
H/TOT	1	0	229	10	3	1	2	246	250	7	0	264	19	4	0	4	298	298.4	0	0	0	0	0	0	0	0	0
09:00	0	0	46	3	1	1	1	52	54.8	3	0	61	6	0	0	0	70	67.6	0	0	0	0	0	0	0	0	0
09:15	0	0	39	3	0	0	0	42	42	2	1	53	8	6	0	2	72	74.8	0	0	0	0	0	0	0	0	0
09:30	0	0	23	1	1	0	0	25	25.5	1	0	46	6	2	0	0	55	55.2	0	0	0	0	0	0	0	0	0
09:45	0	0	29	2	1	0	0	32	32.5	1	0	40	8	1	0	2	52	53.7	0	0	0	0	0	0	0	0	0
H/TOT	0	0	137	9	3	1	1	151	154.8	7	1	200	28	9	0	4	249	251.3	0	0	0	0	0	0	0	0	0
10:00	0	0	26	3	2	0	0	31	32	3	0	45	9	0	0	0	57	54.6	0	0	0	0	0	0	0	0	0
10:15	0	0	19	0	0	0	0	19	19	0	0	42	5	2	0	1	50	52	0	0	0	0	0	0	0	0	0
10:30	0	0	24	2	0	0	0	26	26	1	2	55	9	1	1	0	69	68.8	0	0	0	0	0	0	0	0	0
10:45	1	0	18	6	2	2	0	29	31.8	0	0	48	12	1	0	2	63	65.5	0	0	0	0	0	0	0	0	0
H/TOT	1	0	87	11	4	2	0	105	108.8	4	2	190	35	4	1	3	239	240.9	0	0	0	0	0	0	0	0	0
11:00	0	1	18	0	2	0	0	21	21.4	2	0	66	12	0	1	0	81	80.7	0	0	0	0	0	0	0	0	0
11:15	0	0	17	1	0	0	0	18	18	0	0	51	3	4	0	1	59	62	0	0	0	0	0	0	0	0	0
11:30	1	0	27	2	1	1	0	32	33	5	2	74	11	0	2	1	95	93.4	0	0	0	0	0	0	0	0	0
11:45	0	0	12	3	3	0	0	18	19.5	1	0	60	10	5	0	3	79	83.7	0	0	0	0	0	0	0	0	0
H/TOT	1	1	74	6	6	1	0	89	91.9	8	2	251	36	9	3	5	314	319.8	0	0	0	0	0	0	0	0	0
12:00	0	0	14	1	1	0	0	16	16.5	4	0	65	6	2	0	0	77	74.8	0	0	0	0	0	0	0	0	0
12:15	1	0	15	3	1	0	0	20	19.7	5	2	69	6	3	1	1	87	85.6	0	0	0	0	0	0	0	0	0
12:30	0	0	18	5	0	0	0	23	23	1	0	76	6	3	0	0	86	86.7	0	0	0	0	0	0	0	0	0
12:45	0	0	25	3	0	0	0	28	28	2	0	79	5	1	2	2	91	94.5	0	0	0	0	0	0	0	0	0
H/TOT	1	0	72	12	2	0	0	87	87.2	12	2	289	23	9	3	3	341	341.6	0	0	0	0	0	0	0	0	0
13:00	0	0	15	3	0	0	0	18	18	0	0	94	6	1	0	0	101	101.5	0	0	0	0	0	0	0	0	0
13:15	1	0	14	2	2	0	0	19	19.2	4	0	65	4	0	1	1	75	74.1	0	0	0	0	0	0	0	0	0
13:30	2	0	22	1	1	1	0	27	27.2	4	0	69	10	0	0	1	84	81.8	0	0	0	0	0	0	0	0	0
13:45	0	0	20	1	1	1	0	23	24.8	3	0	79	9	2	0	3	96	97.6	0	0	0	0	0	0	0	0	0
H/TOT	3	0	71	7	4	2	0	87	89.2	11	0	307	29	3	1	5	356	355	0	0	0	0	0	0	0	0	0
14:00	2	0	22	1	0	1	0	26	25.7	2	0	60	7	0	1	0	70	69.7	0	0	0	0	0	0	0	0	0
14:15	0	1	30	7	1	0	0	39	38.9	0	0	73	4	1	1	1	80	82.8	0	0	0	0	0	0	0	0	0
14:30	0	0	32	10	2	0	0	44	45	3	0	73	8	2	0	2	88	88.6	0	0	0	0	0	0	0	0	0
14:45	0	0	44	0	1	1	2	48	51.8	1	0	102	2	4	2	2	113	118.8	0	0	0	0	0	0	0	0	0
H/TOT	2	1	128	18	4	2	2	157	161.4	6	0	308	21	7	4	5	351	359.9	0	0	0	0	0	0	0	0	0
15:00	0	0	35	5	1	3	0	44	48.4	1	3	63	7	3	2	0	79	80.5	0	0	0	0	0	0	0	0	0
15:15	0	0	38	4	4	0	0	46	48	0	1	97	9	2	0	3	112	115.4	0	0	0	0	0	0	0	0	0
15:30	1	0	52	10	1	1	0	65	66	2	0	94	7	3	2	0	108	110.5	0	0	0	0	0	0	0	0	0
15:45	1	0	61	8	1	0	0	71	70.7	2	0	84	11	4	0	3	104	107.4	0	0	0	0	0	0	0	0	0
H/TOT	2	0	186	27	7	4	0	226	233.1	5	4	338	34	12	4	6	403	413.8	0	0	0	0	0	0	0	0	0
16:00	0	0	67	11	2	0	1	81	83	1	0	118	11	1	0	1	132	132.7	0	0	0	0	0	0	0	0	0
16:15	0	0	47	17	3	0	0	67	68.5	5	0	110	7	1	0	3	126	125.5	0	0	0	0	0	0	0	0	0
16:30	0	0	35	5	0	1	0	41	42.3	0	2	106	19	1	1	1	130	131.6	0	0	0	0	0	0	0	0	0
16:45	0	0	25	7	1	0	0	33	33.5	0	0	103	9	1	0	2	115	117.5	0	0	0	0	0	0	0	0	0
H/TOT	0	0	174	40	6	1	1	222	227.3	6	2	437	46	4	1	7	503	507.3	0	0	0	0	0	0	0	0	0
17:00	0	0	30	9	2	0	1	42	44	5	0	103	12	1	0	2	123	121.5	0	0	0	0	0	0	0	0	0
17:15	0	0	24	2	0	0	0	26	26	5	2	83	13	2	0	2	107	104.8	0	0	0	0	0	0	0	0	0
17:30	1	0	43	1	0	0	0	45	44.2	5	1	107	7	2	0	2	124	122.4	0	0	0	0	0	0	0	0	0
17:45	0	0	37	0	0	0	0	37	37	9	2	87	2	1	0	1	102	95.1	0	0	0	0	0	0	0	0	0
H/TOT	1	0	134	12	2	0	1	150	151.2	24	5	380	34	6	0	7	456	443.8	0	0	0	0	0	0	0	0	0
18:00	0	0	28	3	0	0	1	32	33	5	0	74	7	0	0	1	87	84	0	0	0	0	0	0	0	0	0
18:15	0	0	25	0	1	0	0	26	26.5	4	0	90	6	0	0	2	102	100.8	0	0	0	0	0	0	0	0	0
18:30	0	0	38	3	0	0	0	41	41	5	1	81	10	0	0	4	101	100.4	0	0	0	0	0	0	0	0	0
18:45	1	0	28	0	0	0	0	29	28.2	2	0	80	5	0	0	1	88	87.4	0	0	0	0	0	0	0	0	0
H/TOT	1	0	119	6	1	0	1	128	128.7	16	1	325	28	0	0	8	378	372.6	0	0	0	0	0	0	0	0	0
12 TOT	13	2	1566	163	42	14	8	1808	1844	108	19	3410	350	70	18	67	4042	4070	0	0	0	0	0	0	0	0	0



IDASO

Survey Name: 036 19051 Portmarnock

Site: Site 4

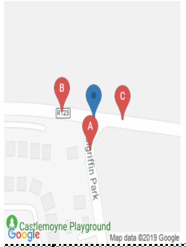
Location: R124 Drumnigh Road/R123 Moyne Road

Date: 26-Feb-2019

	A => A									A => B									A => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	3	1	0	46	1	0	0	0	48	47.2
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	50	5	1	0	0	60	57.7
07:30	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	3	0	72	3	1	1	0	80	79.4
07:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	5	0	64	5	0	0	0	74	70
H/TOT	0	0	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5	5	11	2	232	14	2	1	0	262	254.3
08:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	1	70	4	1	1	0	78	78.4
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	63	5	0	1	0	70	70.7
08:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	1	2	50	3	0	1	0	57	56.3
08:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	1	1	55	8	1	2	0	68	69.7
H/TOT	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5	3	5	238	20	2	5	0	273	275.1
09:00	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	0	0	67	4	1	1	0	73	74.8
09:15	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	3	3.5	1	2	63	3	1	1	0	71	70.8
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	7	3	1	0	46	48.8
09:45	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	1	54	3	0	0	0	58	57.4
H/TOT	0	0	0	0	0	0	0	0	0	0	0	5	1	1	0	0	7	7.5	1	3	219	17	5	3	0	248	251.8
10:00	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3	0	0	23	7	3	0	0	33	34.5
10:15	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	2.5	1	0	31	6	0	2	0	40	41.8
10:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	1	37	13	3	1	0	55	57.2
10:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	33	5	0	1	0	40	40.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	5	2	1	0	0	8	8.5	2	1	124	31	6	4	0	168	174
11:00	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	2	0	36	13	1	0	0	52	50.9
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	8	0	1	0	35	36.3
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	49	8	0	1	0	58	59.3
11:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	0	0	37	5	1	2	0	45	48.1
H/TOT	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	6	2	0	148	34	2	4	0	190	194.6
12:00	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	2	2.5	1	0	37	6	2	1	0	47	48.5
12:15	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	1	0	31	3	2	0	0	37	37.2
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1.5	0	0	34	6	1	1	0	42	43.8
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	6	1	0	0	37	37.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	3	0	2	0	0	5	6	2	0	132	21	6	2	0	163	167
13:00	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	2	0	0	35	3	0	0	1	39	40
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	4	0	1	0	47	48.3
13:30	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	0	1	45	6	2	3	0	57	61.3
13:45	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	4	0	2	40	4	1	0	0	47	46.3
H/TOT	0	0	0	0	0	0	0	0	0	0	0	6	2	0	0	0	8	8	0	3	162	17	3	4	1	190	195.9
14:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	39	2	4	2	0	47	51.6
14:15	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	1	0	35	4	0	0	0	40	39.2
14:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	43	7	1	0	0	52	51.7
14:45	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	4	1	0	32	5	0	0	0	38	37.2
H/TOT	0	0	0	0	0	0	0	0	0	0	0	5	2	0	0	0	7	7	3	0	149	18	5	2	0	177	179.7
15:00	0	0	0	0	0	0	0	0	0	0	0	3	1	0	0	0	4	4	0	0	48	14	2	1	0	65	67.3
15:15	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	2	0	48	10	2	2	0	64	66
15:30	0	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	3	3	0	0	49	9	3	1	0	62	64.8
15:45	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	37	8	0	0	0	45	45
H/TOT	0	0	0	0	0	0	0	0	0	0	0	8	2	0	0	0	10	10	2	0	182	41	7	4	0	236	243.1
16:00	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	1	0	50	6	2	0	0	59	59.2
16:15	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	4	0	1	54	12	1	0	1	69	69.9
16:30	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	7	7	2	0	65	15	0	0	0	82	80.4
16:45	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	3	3.5	0	1	32	6	0	0	0	39	38.4
H/TOT	0	0	0	0	0	0	0	0	0	0	0	15	0	1	0	0	16	16.5	3	2	201	39	3	0	1	249	247.9
17:00	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	49	14	2	0	0	66	66.4
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	51	5	0	0	0	58	56.4
17:30	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	1.4	3	0	69	7	1	0	0	80	78.1
17:45	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	3	0	48	5	0	0	0	56	53.6
H/TOT	0	0	0	0	0	0	0	0	0	0	1	5	0	0	0	0	6	5.4	8	1	217	31	3	0	0	260	254.5
18:00	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	3	1	1	54	12	0	0	0	68	66.6
18:15	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2	1	0	50	3	0	0	1	55	55.2
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	56	4	0	0	0	61	60.2
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	36	2	0	0	0	40	38.6
H/TOT	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	5	4	2	196	21	0	0	1	224	220.6
12 TOT	0	0	0	0	0	0	0	0	0	0	1	72	10	5	0	0	88	89.9	41	19	2200	304	44	29	3	2640	2659

	B => A									B => B									B => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	3	0	0	1	48	49
07:15	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	67	5	2	1	1	76	79.3
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67	5	1	0	1	74	75.5
07:45	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	85	1	1	0	2	90	91.9
H/TOT	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	1	263	14	4	1	5	288	295.7
08:00	0	0	2	1	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	75	6	0	1	0	82	83.3
08:15	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	105	4	1	2	0	112	115.1
08:30	0	0	14	0	0	0	0	14	14	0	0	0	0	0	0	0	0	0	1	0	92	6	0	4	1	104	109.4
08:45	0	0	9	0	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0	1	89	1	1	0	0	92	91.9
H/TOT	0	0	30	1	0	0	0	31	31	0	0	0	0	0	0	0	0	0	1	1	361	17	2	7	1	390	399.7
09:00	0	0	3	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0	1	81	5	1	1	2	91	94.2
09:15	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	68	3	1	0	0	72	72.5
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	5	1	0	0	58	58.5
09:45	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	49	5	1	0	1	56	57.5
H/TOT	0	0	6	0	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	1	250	18	4	1	3	277	282.7
10:00	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	43	2	2	1	0	48	50.3
10:15	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	37	2	1	1	0	41	42.8
10:30	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	37	2	0	3	0	42	45.9
10:45	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	33	7	4	2	0	46	50.6
H/TOT	0	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	150	13	7	7	0	177	189.6
11:00	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	2	27	2	5	0	0	36	37.3
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29	2	0	0	0	31	31
11:30	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	1	0	39	4	1	0	1	46	46.7
11:45	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	35	2	4	2	0	43	47.6
H/TOT	0	0	8	0	0	0	0	8	8	0	0	0	0	0	0	0	0	0	1	2	130	10	10	2	1	156	162.6
12:00	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	38	4	2	1	0	46	47.5
12:15	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	32	5	1	1	0	39	40.8
12:30	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	41	6	0	1	0	48	49.3
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	4	1	1	0	51	52.8
H/TOT	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	1	0	156	19	4	4	0	184	190.4
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	4	0	0	0	54	54
13:15	1	0	3	0	1	0	0	5	4.7	0	0	0	0	0	0	0	0	0	0	0	35	5	1	0	0	41	41.5
13:30	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	1	39	2	2	1	0	47	47.1
13:45	0	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	41	5	1	1	0	48	49.8
H/TOT	1	0	5	1	1	0	0	8	7.7	0	0	0	0	0	0	0	0	0	2	1	165	16	4	2	0	190	192.4
14:00	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	2	1	43	3	0	0	1	50	48.8
14:15	0	0	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	52	7	3	1	2	66	70.2
14:30	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	63	14	1	1	0	79	80.8
14:45	0	0	2	0	0	1	0	3	4.3	0	0	0	0	0	0	0	0	0	0	0	60	10	2	2	3	77	83.6
H/TOT	0	0	6	0	0	1	0	7	8.3	0	0	0	0	0	0	0	0	0	2	2	218	34	6	4	6	272	283.4
15:00	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	62	7	2	2	0	73	76.6
15:15	0	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	60	6	3	1	0	70	72.8
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	75	11	2	1	0	90	91.7
15:45	0	0	6	1	0	0	0	7	7	0	0	0	0	0	0	0	0	0	1	1	81	11	2	0	0	96	95.6
H/TOT	0	0	11	2	0	0	0	13	13	0	0	0	0	0	0	0	0	0	1	2	278	35	9	4	0	329	336.7
16:00	0	0	7	1	0	0	1	9	10	0	0	0	0	0	0	0	0	0	0	0	80	15	1	1	0	97	98.8
16:15	0	0	3	1	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	74	21	3	0	1	99	101.5
16:30	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	1	64	5	0	1	0	71	71.7
16:45	0	0	3	3	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	50	10	1	0	0	61	61.5
H/TOT	0	0	17	5	0	0	1	23	24	0	0	0	0	0	0	0	0	0	0	1	268	51	5	2	1	328	333.5
17:00	0	0	5	0	0	0	1	6	7	0	0	0	0	0	0	0	0	0	0	0	58	12	1	0	1	72	73.5
17:15	0	0	5	1	0	0	0	6	6	0	0	0	0	0	0	0	0	0	0	0	38	5	2	0	0	45	46
17:30	0	0	8	0	0	0	0	8	8	0	0	0	0	0	0	0	0	0	1	1	58	4	0	0	0	64	62.6
17:45	0	0	14	0	0	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	47	0	0	0	0	47	47
H/TOT	0	0	32	1	0	0	1	34	35	0	0	0	0	0	0	0	0	0	1	1	201	21	3	0	1	228	229.1
18:00	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	0	0	55	5	0	0	0	60	60
18:15	0	0	2	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	1	0	51	4	0	0	0	56	55.2
18:30	0	0	4	0	0	0	0	4	4	0	0	0	0	0	0	0	0	0	0	0	52	6	0	0	0	58	58
18:45	0	0	5	0	0	0	0	5	5	0	0	0	0	0	0	0	0	0	1	0	47	1	0	0	0	49	48.2
H/TOT	0	0	16	0	0	0	0	16	16	0	0	0	0	0	0	0	0	0	2	0	205	16	0	0	0	223	221.4
12 TOT	1	0	140	11	1	1	2	156	159	0	0	0	0	0	0	0	0	0	11	12	2645	264	58	34	18	3042	3117

	C => A									C => B									C => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	27	12	0	0	0	39	39	0	0	15	8	1	0	0	24	24.5	0	0	0	0	0	0	0	0	0
07:15	2	0	36	19	1	0	0	58	56.9	0	0	13	17	2	2	0	34	37.6	0	0	0	0	0	0	0	0	0
07:30	2	1	51	19	1	1	0	75	74.6	0	0	21	9	1	3	0	34	38.4	0	0	0	0	0	0	0	0	0
07:45	2	1	56	20	1	1	0	81	80.6	0	0	23	5	0	0	0	28	28	0	0	0	0	0	0	0	0	0
H/TOT	6	2	170	70	3	2	0	253	251.1	0	0	72	39	4	5	0	120	128.5	0	0	0	0	0	0	0	0	0
08:00	2	0	58	16	0	2	0	78	79	0	0	37	10	1	1	0	49	50.8	0	0	0	0	0	0	0	0	0
08:15	1	0	88	7	2	0	1	99	100.2	0	0	40	3	2	0	0	45	46	0	0	0	0	0	0	0	0	0
08:30	0	0	99	7	1	1	0	108	109.8	0	0	62	7	1	0	1	71	72.5	0	0	0	0	0	0	0	0	0
08:45	0	0	50	6	1	1	0	58	59.8	1	0	39	8	3	0	3	54	57.7	0	0	0	0	0	0	0	0	0
H/TOT	3	0	295	36	4	4	1	343	348.8	1	0	178	28	7	1	4	219	227	0	0	0	0	0	0	0	0	0
09:00	0	0	50	7	6	1	0	64	68.3	1	0	20	9	2	0	0	32	32.2	0	0	0	0	0	0	0	0	0
09:15	2	0	36	3	0	1	0	42	41.7	0	0	16	2	1	0	0	19	19.5	0	0	0	0	0	0	0	0	0
09:30	1	1	27	4	1	1	0	35	35.4	0	0	19	3	3	0	0	25	26.5	0	0	0	0	0	0	0	0	0
09:45	0	0	48	7	0	1	0	56	57.3	0	0	24	3	2	1	0	30	32.3	0	0	0	0	0	0	0	0	0
H/TOT	3	1	161	21	7	4	0	197	202.7	1	0	79	17	8	1	0	106	110.5	0	0	0	0	0	0	0	0	0
10:00	0	0	45	7	3	1	0	56	58.8	0	0	24	6	0	5	0	35	41.5	0	0	0	0	0	0	0	0	0
10:15	0	0	41	5	2	2	0	50	53.6	0	0	26	3	0	2	1	32	35.6	0	0	0	0	0	0	0	0	0
10:30	0	0	23	7	1	3	0	34	38.4	1	0	31	2	2	0	0	36	36.2	0	0	0	0	0	0	0	0	0
10:45	0	0	55	9	1	0	0	65	65.5	0	0	30	6	3	1	0	40	42.8	0	0	0	0	0	0	0	0	0
H/TOT	0	0	164	28	7	6	0	205	216.3	1	0	111	17	5	8	1	143	156.1	0	0	0	0	0	0	0	0	0
11:00	0	0	36	9	3	1	0	49	51.8	0	0	23	5	2	1	0	31	33.3	0	0	0	0	0	0	0	0	0
11:15	0	0	44	7	1	0	0	52	52.5	1	0	30	2	3	1	0	37	39	0	0	0	0	0	0	0	0	0
11:30	0	0	34	8	1	1	0	44	45.8	0	0	25	5	4	0	0	34	36	0	0	0	0	0	0	0	0	0
11:45	0	0	36	6	0	1	0	43	44.3	0	0	24	4	1	3	0	32	36.4	0	0	0	0	0	0	0	0	0
H/TOT	0	0	150	30	5	3	0	188	194.4	1	0	102	16	10	5	0	134	144.7	0	0	0	0	0	0	0	0	0
12:00	0	1	36	6	2	0	0	45	45.4	0	0	33	3	0	1	0	37	38.3	0	0	0	0	0	0	0	0	0
12:15	0	0	58	8	2	0	0	68	69	0	0	26	7	1	0	0	34	34.5	0	0	0	0	0	0	0	0	0
12:30	0	0	44	5	1	0	0	50	50.5	0	0	33	2	2	0	1	38	40	0	0	0	0	0	0	0	0	0
12:45	0	1	53	8	1	2	0	65	67.5	0	0	32	9	2	0	0	43	44	0	0	0	0	0	0	0	0	0
H/TOT	0	2	191	27	6	2	0	228	232.4	0	0	124	21	5	1	1	152	156.8	0	0	0	0	0	0	0	0	0
13:00	1	0	68	12	2	0	0	83	83.2	0	0	25	9	3	1	1	39	42.8	0	0	0	0	0	0	0	0	0
13:15	0	0	53	13	0	3	0	69	72.9	0	0	31	1	2	2	0	36	39.6	0	0	1	0	0	0	0	1	1
13:30	0	0	55	10	0	0	0	65	65	0	0	31	4	1	1	0	37	38.8	0	0	0	0	0	0	0	0	0
13:45	0	0	62	6	0	0	0	68	68	0	0	34	4	2	0	0	40	41	0	0	0	0	0	0	0	0	0
H/TOT	1	0	238	41	2	3	0	285	289.1	0	0	121	18	8	4	1	152	162.2	0	0	1	0	0	0	0	1	1
14:00	0	0	65	11	3	2	0	81	85.1	0	0	37	5	2	2	0	46	49.6	0	0	0	0	0	0	0	0	0
14:15	2	0	86	9	1	0	0	98	96.9	0	0	40	6	3	4	2	55	63.7	0	0	0	0	0	0	0	0	0
14:30	0	0	41	8	0	0	0	49	49	0	0	48	3	2	0	0	53	54	0	0	0	0	0	0	0	0	0
14:45	0	0	55	3	3	2	0	63	67.1	1	0	32	2	1	0	0	36	35.7	0	0	0	0	0	0	0	0	0
H/TOT	2	0	247	31	7	4	0	291	298.1	1	0	157	16	8	6	2	190	203	0	0	0	0	0	0	0	0	0
15:00	0	0	51	5	1	0	0	57	57.5	1	0	35	5	1	1	0	43	44	0	0	0	0	0	0	0	0	0
15:15	0	0	67	8	1	0	1	77	78.5	0	0	43	0	2	0	0	45	46	0	0	0	0	0	0	0	0	0
15:30	0	0	87	7	1	0	0	95	95.5	0	0	44	2	1	1	1	49	51.8	0	0	0	0	0	0	0	0	0
15:45	0	0	76	3	0	0	0	79	79	0	0	47	9	1	0	1	58	59.5	0	0	0	0	0	0	0	0	0
H/TOT	0	0	281	23	3	0	1	308	310.5	1	0	169	16	5	2	2	195	201.3	0	0	0	0	0	0	0	0	0
16:00	2	1	77	8	0	0	0	88	85.8	1	0	50	9	1	0	0	61	60.7	0	0	0	0	0	0	0	0	0
16:15	0	0	96	13	1	0	0	110	110.5	0	0	35	2	1	0	0	38	38.5	0	0	0	0	0	0	0	0	0
16:30	3	1	94	6	0	0	0	104	101	0	1	43	6	0	0	0	50	49.4	0	0	0	0	0	0	0	0	0
16:45	0	2	108	13	1	0	0	124	123.3	0	0	38	5	0	0	1	44	45	0	0	0	0	0	0	0	0	0
H/TOT	5	4	375	40	2	0	0	426	420.6	1	1	166	22	2	0	1	193	193.6	0	0	0	0	0	0	0	0	0
17:00	1	2	107	11	0	0	0	121	119	0	0	39	8	0	0	0	47	47	0	0	0	0	0	0	0	0	0
17:15	3	1	124	10	0	0	0	138	135	0	1	48	3	1	0	0	53	52.9	0	0	0	0	0	0	0	0	0
17:30	4	0	122	6	0	0	0	132	128.8	0	1	46	0	0	0	1	48	48.4	0	0	0	0	0	0	0	0	0
17:45	6	3	129	6	0	0	0	144	137.4	0	0	41	2	0	0	2	45	47	0	0	0	0	0	0	0	0	0
H/TOT	14	6	482	33	0	0	0	535	520.2	0	2	174	13	1	0	3	193	195.3	0	0	0	0	0	0	0	0	0
18:00	4	5	142	9	0	0	1	161	155.8	0	0	34	4	0	0	0	38	38	0	0	0	0	0	0	0	0	0
18:15	1	1	143	11	0	0	0	156	154.6	0	0	45	2	1	0	1	49	50.5	0	0	0	0	0	0	0	0	0
18:30	1	0	119	5	1	0	0	126	125.7	0	0	46	2	1	0	0	49	49.5	0	0	0	0	0	0	0	0	0
18:45	0	0	118	8	0	0	0	126	126	0	0	39	3	1	0	0	43	43.5	0	0	0	0	0	0	0	0	0
H/TOT	6	6	522	33	1	0	1	569	562.1	0	0	164	11	3	0	1	179	181.5	0	0	0	0	0	0	0	0	0
12 TOT	40	21	3276	413	47	28	3	3828	3846	7	3	1617	234	66	33	16	1976	2061	0	0	1	0	0	0	0	1	1



IDASO

Survey Name: 036 19051 Portmarnock
Site: Site 5
Location: Balgriffin Park/R123 Balgriffin Cottages/R123 Moyne Road
Date: 26-Feb-2019

	A => A									A => B									A => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	0	0	0	0	0	0	0	0	0	12	4	0	0	0	16	16	0	0	7	3	0	0	0	10	10
07:15	0	0	0	0	0	0	0	0	0	1	0	15	3	1	0	0	20	19.7	1	0	7	3	1	0	0	12	11.7
07:30	0	0	0	0	0	0	0	0	0	0	0	23	3	1	0	0	27	27.5	2	0	18	7	0	0	0	27	25.4
07:45	0	0	0	0	0	0	0	0	0	0	0	28	1	0	1	0	30	31.3	2	1	20	1	0	0	0	24	21.8
H/TOT	0	0	0	0	0	0	0	0	0	1	0	78	11	2	1	0	93	94.5	5	1	52	14	1	0	0	73	68.9
08:00	0	0	0	0	0	0	0	0	0	0	0	29	3	1	0	0	33	33.5	2	0	28	6	0	0	0	36	34.4
08:15	0	0	0	0	0	0	0	0	0	1	0	12	2	0	0	0	15	14.2	1	0	45	2	1	0	1	50	50.7
08:30	0	0	0	0	0	0	0	0	0	0	0	20	0	1	0	1	22	23.5	0	0	37	1	0	0	0	38	38
08:45	0	0	0	0	0	0	0	0	0	0	0	21	5	0	0	0	26	26	1	0	29	3	1	0	2	36	37.7
H/TOT	0	0	0	0	0	0	0	0	0	1	0	82	10	2	0	1	96	97.2	4	0	139	12	2	0	3	160	160.8
09:00	0	0	0	0	0	0	0	0	0	0	0	26	4	3	0	0	33	34.5	0	0	21	3	1	0	0	25	25.5
09:15	0	0	0	0	0	0	0	0	0	0	0	27	4	0	0	0	31	31	1	0	22	1	0	0	0	24	23.2
09:30	0	0	0	0	0	0	0	0	0	0	0	18	4	1	0	0	23	23.5	0	1	17	0	0	0	0	18	17.4
09:45	0	0	0	0	0	0	0	0	0	0	0	20	1	1	0	0	22	22.5	0	0	21	2	1	0	0	24	24.5
H/TOT	0	0	0	0	0	0	0	0	0	0	0	91	13	5	0	0	109	111.5	1	1	81	6	2	0	0	91	90.6
10:00	0	0	0	0	0	0	0	0	0	0	0	20	2	0	0	0	22	22	0	0	19	3	0	0	0	22	22
10:15	0	0	0	0	0	0	0	0	0	0	0	16	2	0	0	0	18	18	0	0	22	1	0	0	0	23	23
10:30	0	0	0	0	0	0	0	0	0	0	0	16	6	0	0	0	22	22	0	0	14	3	0	0	0	17	17
10:45	0	0	0	0	0	0	0	0	0	0	0	14	4	0	2	0	20	22.6	0	0	24	6	0	0	0	30	30
H/TOT	0	0	0	0	0	0	0	0	0	0	0	66	14	0	2	0	82	84.6	0	0	79	13	0	0	0	92	92
11:00	0	0	0	0	0	0	0	0	0	0	0	14	4	1	0	0	19	19.5	0	0	20	6	1	0	0	27	27.5
11:15	0	0	0	0	0	0	0	0	0	0	0	15	3	3	0	0	21	22.5	0	0	23	2	2	0	0	27	28
11:30	0	0	0	0	0	0	0	0	0	1	0	15	1	0	1	0	18	18.5	0	0	17	2	1	0	0	20	20.5
11:45	0	0	0	0	0	0	0	0	0	0	0	14	4	1	0	0	19	19.5	0	0	20	3	0	0	0	23	23
H/TOT	0	0	0	0	0	0	0	0	0	1	0	58	12	5	1	0	77	80	0	0	80	13	4	0	0	97	99
12:00	0	0	0	0	0	0	0	0	0	0	0	24	3	0	1	0	28	29.3	0	0	21	1	0	0	0	22	22
12:15	0	0	0	0	0	0	0	0	0	1	0	24	1	1	0	0	27	26.7	0	0	27	6	0	0	0	33	33
12:30	0	0	0	0	0	0	0	0	0	0	0	14	5	1	0	0	20	20.5	0	0	19	2	1	0	0	22	22.5
12:45	0	0	0	0	0	0	0	0	0	0	0	17	2	0	0	1	20	21	0	0	19	5	0	0	0	24	24
H/TOT	0	0	0	0	0	0	0	0	0	1	0	79	11	2	1	1	95	97.5	0	0	86	14	1	0	0	101	101.5
13:00	0	0	0	0	0	0	0	0	0	0	0	25	3	1	0	1	30	31.5	1	0	28	5	2	0	0	36	36.2
13:15	0	0	0	0	0	0	0	0	0	0	2	22	4	0	0	0	28	26.8	0	0	26	4	0	0	0	30	30
13:30	0	0	0	0	0	0	0	0	0	0	0	27	3	0	0	0	30	30	0	0	16	3	0	0	0	19	19
13:45	0	0	0	0	0	0	0	0	0	1	0	24	3	0	0	0	28	27.2	0	0	33	4	0	0	0	37	37
H/TOT	0	0	0	0	0	0	0	0	0	1	2	98	13	1	0	1	116	115.5	1	0	103	16	2	0	0	122	122.2
14:00	0	0	0	0	0	0	0	0	0	0	0	27	3	1	2	0	33	36.1	0	0	40	8	1	0	0	49	49.5
14:15	0	0	0	0	0	0	0	0	0	0	0	21	2	0	1	0	24	25.3	1	0	39	2	1	0	0	43	42.7
14:30	0	0	0	0	0	0	0	0	0	0	0	26	4	0	1	0	31	32.3	0	0	27	3	0	0	0	30	30
14:45	0	0	0	0	0	1	0	1	2.3	0	0	25	1	0	0	0	26	26	1	0	26	1	2	0	0	30	30.2
H/TOT	0	0	0	0	0	1	0	1	2.3	0	0	99	10	1	4	0	114	119.7	2	0	132	14	4	0	0	152	152.4
15:00	0	0	0	0	0	0	0	0	0	0	0	17	0	1	0	0	18	18.5	0	0	24	1	1	0	0	26	26.5
15:15	0	0	0	0	0	0	0	0	0	0	0	16	3	1	0	0	20	20.5	0	0	36	7	0	0	0	43	43
15:30	0	0	0	0	0	0	0	0	0	0	0	31	1	1	0	0	33	33.5	0	0	48	4	0	0	1	53	54
15:45	0	0	0	0	0	0	0	0	0	0	0	24	4	2	0	0	30	31	0	0	34	4	0	0	1	39	40
H/TOT	0	0	0	0	0	0	0	0	0	0	0	88	8	5	0	0	101	103.5	0	0	142	16	1	0	2	161	163.5
16:00	0	0	0	0	0	0	0	0	0	0	0	25	6	0	1	1	33	35.3	0	0	37	3	0	0	0	40	40
16:15	0	0	0	0	0	0	0	0	0	0	0	22	6	0	0	0	28	28	0	0	36	2	0	0	0	38	38
16:30	0	0	0	0	0	0	0	0	0	0	0	29	4	0	0	0	33	33	1	0	43	4	0	0	0	48	47.2
16:45	0	0	0	0	0	0	0	0	0	0	0	32	3	0	0	0	35	35	0	1	34	3	1	0	0	39	38.9
H/TOT	0	0	0	0	0	0	0	0	0	0	0	108	19	0	1	1	129	131.3	1	1	150	12	1	0	0	165	164.1
17:00	0	0	0	0	0	0	0	0	0	0	0	28	2	0	0	0	30	30	0	1	43	5	0	0	0	49	48.4
17:15	0	0	0	0	0	0	0	0	0	1	0	38	2	0	0	0	41	40.2	0	1	46	3	0	0	0	50	49.4
17:30	0	0	0	0	0	0	0	0	0	0	0	23	0	0	0	0	23	23	1	0	51	3	0	0	0	55	54.2
17:45	0	0	0	0	0	0	0	0	0	0	0	22	1	1	0	0	24	24.5	1	0	50	2	0	0	1	54	54.2
H/TOT	0	0	0	0	0	0	0	0	0	1	0	111	5	1	0	0	118	117.7	2	2	190	13	0	0	1	208	206.2
18:00	0	0	0	0	0	0	0	0	0	0	1	17	1	0	0	0	19	18.4	0	1	47	4	0	0	0	52	51.4
18:15	0	0	0	0	0	0	0	0	0	0	0	21	2	0	0	0	23	23	0	1	47	4	0	0	0	52	51.4
18:30	0	0	0	0	0	0	0	0	0	0	0	26	1	0	0	0	27	27	0	0	42	3	0	0	0	45	45
18:45	0	0	0	0	0	0	0	0	0	0	1	31	2	0	0	0	34	33.4	0	0	62	2	0	0	0	64	64
H/TOT	0	0	0	0	0	0	0	0	0	0	2	95	6	0	0	0	103	101.8	0	2	198	13	0	0	0	213	211.8
12 TOT	0	0	0	0	0	1	0	1	2.3	6	4	1053	132	24	10	4	1233	1255	16	7	1432	156	18	0	6	1635	1633

	B => A									B => B									B => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	10	1	0	0	0	11	11	0	0	0	0	0	0	0	0	0	0	0	38	12	1	0	0	51	51.5
07:15	0	0	21	6	0	0	0	27	27	0	0	0	0	0	0	0	0	0	1	0	44	33	2	2	0	82	84.8
07:30	0	0	29	4	0	0	0	33	33	0	0	0	0	0	0	0	0	0	0	1	52	21	3	4	0	81	87.1
07:45	0	0	53	7	0	0	1	61	62	0	0	0	0	0	0	0	0	0	0	0	60	24	1	1	0	86	87.8
H/TOT	0	0	113	18	0	0	1	132	133	0	0	0	0	0	0	0	0	0	1	1	194	90	7	7	0	300	311.2
08:00	0	0	38	5	0	0	0	43	43	0	0	0	0	0	0	0	0	0	0	0	69	16	1	3	0	89	93.4
08:15	0	0	42	2	0	0	0	44	44	0	0	0	0	0	0	0	0	0	0	0	86	7	3	0	0	96	97.5
08:30	0	0	35	2	0	0	0	37	37	0	0	0	0	0	0	0	0	0	0	0	124	13	2	1	1	141	144.3
08:45	0	0	34	4	0	0	0	38	38	0	0	0	0	0	0	0	0	0	0	0	61	10	3	1	1	76	79.8
H/TOT	0	0	149	13	0	0	0	162	162	0	0	0	0	0	0	0	0	0	0	0	340	46	9	5	2	402	415
09:00	0	0	20	2	0	0	0	22	22	0	0	0	0	0	0	0	0	0	1	0	48	14	7	1	0	71	75
09:15	0	0	23	0	0	0	0	23	23	0	0	0	0	0	0	0	0	0	1	0	31	4	1	1	0	38	39
09:30	0	0	19	4	0	0	0	23	23	0	0	0	0	0	0	0	0	0	1	0	31	6	4	1	0	43	45.5
09:45	0	0	13	2	0	0	0	15	15	0	0	0	0	0	0	0	0	0	0	0	48	9	1	2	0	60	63.1
H/TOT	0	0	75	8	0	0	0	83	83	0	0	0	0	0	0	0	0	0	3	0	158	33	13	5	0	212	222.6
10:00	0	0	9	3	0	0	0	12	12	0	0	0	0	0	0	0	0	0	0	0	50	11	3	5	0	69	77
10:15	0	0	4	1	1	1	0	7	8.8	0	0	0	0	0	0	0	0	0	0	0	45	7	2	5	1	60	68.5
10:30	0	0	13	2	0	0	0	15	15	0	0	0	0	0	0	0	0	0	1	0	40	5	3	3	0	52	56.6
10:45	1	0	16	4	2	0	0	23	23.2	0	0	0	0	0	0	0	0	0	0	0	61	7	5	0	0	73	75.5
H/TOT	1	0	42	10	3	1	0	57	59	0	0	0	0	0	0	0	0	0	1	0	196	30	13	13	1	254	277.6
11:00	0	0	11	3	0	0	0	14	14	0	0	0	0	0	0	0	0	0	0	0	41	9	4	2	0	56	60.6
11:15	0	0	14	3	0	0	0	17	17	0	0	0	0	0	0	0	0	0	1	0	51	8	2	1	0	63	64.5
11:30	0	0	20	3	1	0	0	24	24.5	0	0	0	0	0	0	0	0	0	0	0	41	12	4	1	0	58	61.3
11:45	0	0	16	5	0	1	0	22	23.3	0	0	0	0	0	0	0	0	0	0	0	42	6	1	4	0	53	58.7
H/TOT	0	0	61	14	1	1	0	77	78.8	0	0	0	0	0	0	0	0	0	1	0	175	35	11	8	0	230	245.1
12:00	0	0	22	1	1	0	0	24	24.5	0	0	0	0	0	0	0	0	0	0	1	49	8	2	1	0	61	62.7
12:15	0	0	25	2	0	2	0	29	31.6	0	0	0	0	0	0	0	0	0	0	0	58	10	3	0	0	71	72.5
12:30	0	0	11	1	0	0	0	12	12	0	0	0	0	0	0	0	0	0	0	0	57	6	2	0	1	66	68
12:45	0	0	13	4	0	0	0	17	17	0	0	0	0	0	0	0	0	0	0	1	65	13	4	1	0	84	86.7
H/TOT	0	0	71	8	1	2	0	82	85.1	0	0	0	0	0	0	0	0	0	0	2	229	37	11	2	1	282	289.9
13:00	0	0	22	4	0	0	0	26	26	0	0	0	0	0	0	0	0	0	0	0	65	16	3	1	1	86	89.8
13:15	0	1	25	4	0	0	0	30	29.4	0	0	0	0	0	0	0	0	0	0	0	57	11	2	5	0	75	82.5
13:30	0	0	10	1	0	0	0	11	11	0	0	0	0	0	0	0	0	0	0	0	71	10	1	1	0	83	84.8
13:45	0	0	12	1	1	0	0	14	14.5	0	0	0	0	0	0	0	0	0	0	0	63	6	2	0	0	71	72
H/TOT	0	1	69	10	1	0	0	81	80.9	0	0	0	0	0	0	0	0	0	0	0	256	43	8	7	1	315	329.1
14:00	0	0	26	2	0	0	0	28	28	0	0	0	0	0	0	0	0	0	0	0	62	8	4	4	0	78	85.2
14:15	0	1	21	2	0	1	0	25	25.7	0	0	0	0	0	0	0	0	0	1	0	86	14	4	3	2	110	117.1
14:30	0	1	16	4	1	2	0	24	26.5	0	0	0	0	0	0	0	0	0	0	0	60	8	2	0	0	70	71
14:45	0	1	32	1	0	0	0	34	33.4	0	0	0	0	0	0	0	0	0	1	0	63	4	2	2	0	72	74.8
H/TOT	0	3	95	9	1	3	0	111	113.6	0	0	0	0	0	0	0	0	0	2	0	271	34	12	9	2	330	348.1
15:00	0	0	27	2	0	1	1	31	33.3	0	0	0	0	0	0	0	0	0	0	0	63	9	1	1	0	74	75.8
15:15	0	0	27	0	1	0	0	28	28.5	0	0	0	0	0	0	0	0	0	0	0	73	9	3	0	1	86	88.5
15:30	0	0	24	2	0	0	0	26	26	0	0	0	0	0	0	0	0	0	0	0	81	4	3	1	0	89	91.8
15:45	0	0	25	0	0	0	0	25	25	0	0	0	0	0	0	0	0	0	0	0	90	9	1	0	0	100	100.5
H/TOT	0	0	103	4	1	1	1	110	112.8	0	0	0	0	0	0	0	0	0	0	0	307	31	8	2	1	349	356.6
16:00	0	0	20	4	1	1	0	26	27.8	0	0	0	0	0	0	0	0	0	5	0	87	10	1	0	0	103	99.5
16:15	0	0	29	2	0	0	0	31	31	0	0	0	0	0	0	0	0	0	1	0	94	14	2	0	0	111	111.2
16:30	0	0	21	3	1	0	0	25	25.5	0	0	0	0	0	0	0	0	0	2	2	99	6	0	0	0	109	106.2
16:45	0	0	29	4	1	0	0	34	34.5	0	0	0	0	0	0	0	0	0	0	1	113	12	0	0	1	127	127.4
H/TOT	0	0	99	13	3	1	0	116	118.8	0	0	0	0	0	0	0	0	0	8	3	393	42	3	0	1	450	444.3
17:00	0	0	34	3	0	0	0	37	37	0	0	0	0	0	0	0	0	0	1	1	103	12	0	0	0	117	115.6
17:15	0	0	30	2	1	0	0	33	33.5	0	0	0	0	0	0	0	0	0	3	1	122	12	1	0	0	139	136.5
17:30	1	0	24	1	0	0	0	26	25.2	0	0	0	0	0	0	0	0	0	3	1	121	2	0	0	1	128	126
17:45	0	1	38	2	1	0	0	42	41.9	0	0	0	0	0	0	0	0	0	5	3	122	7	0	0	1	138	133.2
H/TOT	1	1	126	8	2	0	0	138	137.6	0	0	0	0	0	0	0	0	0	12	6	468	33	1	0	2	522	511.3
18:00	0	0	24	2	0	0	0	26	26	0	0	0	0	0	0	0	0	0	4	4	132	7	0	0	1	148	143.4
18:15	0	0	32	2	0	0	0	34	34	0	0	0	0	0	0	0	0	0	1	0	142	9	0	1	1	154	155.5
18:30	0	0	26	1	0	0	1	28	29	0	0	0	0	0	0	0	0	0	0	0	125	2	2	0	0	129	130
18:45	0	0	26	2	0	0	0	28	28	0	0	0	0	0	0	0	0	0	0	0	102	4	1	0	0	107	107.5
H/TOT	0	0	108	7	0	0	1	116	117	0	0	0	0	0	0	0	0	0	5	4	501	22	3	1	2	538	536.4
12 TOT	2	5	1111	122	13	9	3	1265	1282	0	0	0	0	0	0	0	0	0	33	16	3488	476	99	59	13	4184	4287

	C => A									C => B									C => C								
TIME	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU	PCL	MCL	CAR	LGV	OGV1	OGV2	PSV	TOT	PCU
07:00	0	0	17	0	0	0	0	17	17	1	0	77	4	0	0	1	83	83.2	0	0	0	0	0	0	0	0	0
07:15	0	0	15	5	0	0	0	20	20	2	2	98	4	3	1	1	111	112	0	0	0	0	0	0	0	0	0
07:30	0	0	31	1	0	0	1	33	34	3	0	104	6	2	1	0	116	115.9	0	0	0	0	0	0	0	0	0
07:45	2	1	49	3	0	0	2	57	56.8	2	0	101	2	0	0	0	105	103.4	0	0	0	0	0	0	0	0	0
H/TOT	2	1	112	9	0	0	3	127	127.8	8	2	380	16	5	2	2	415	414.5	0	0	0	0	0	0	0	0	0
08:00	0	0	51	5	0	0	0	56	56	3	1	96	4	2	2	0	108	108.6	0	0	0	0	0	0	0	0	0
08:15	0	0	87	2	1	1	0	91	92.8	0	1	83	5	0	2	0	91	93	0	0	0	0	0	0	0	0	0
08:30	0	0	25	2	0	0	0	27	27	0	2	123	8	0	5	1	139	145.3	0	0	0	0	0	0	0	0	0
08:45	0	0	39	3	1	0	0	43	43.5	0	2	99	5	1	2	0	109	110.9	0	0	0	0	0	0	0	0	0
H/TOT	0	0	202	12	2	1	0	217	219.3	3	6	401	22	3	11	1	447	457.8	0	0	0	0	0	0	0	0	0
09:00	0	0	41	2	2	0	0	45	46	1	1	112	6	0	2	2	124	127.2	0	0	0	0	0	0	0	0	0
09:15	0	1	40	4	0	0	0	45	44.4	1	1	95	3	3	0	0	103	103.1	0	0	0	0	0	0	0	0	0
09:30	0	0	18	5	0	0	0	23	23	0	0	68	6	4	1	0	79	82.3	0	0	0	0	0	0	0	0	0
09:45	0	0	26	2	0	0	0	28	28	0	1	74	7	1	0	0	83	82.9	0	0	0	0	0	0	0	0	0
H/TOT	0	1	125	13	2	0	0	141	141.4	2	3	349	22	8	3	2	389	395.5	0	0	0	0	0	0	0	0	0
10:00	0	0	23	2	1	0	0	26	26.5	0	0	46	7	3	1	1	58	61.8	0	0	0	0	0	0	0	0	0
10:15	0	0	18	2	1	0	0	21	21.5	1	0	50	5	1	3	0	60	63.6	0	0	0	0	0	0	0	0	0
10:30	0	0	19	5	0	0	0	24	24	0	1	58	9	2	3	0	73	77.3	0	0	0	0	0	0	0	0	0
10:45	1	0	18	2	1	0	0	22	21.7	1	0	45	13	3	4	0	66	71.9	0	0	0	0	0	0	0	0	0
H/TOT	1	0	78	11	3	0	0	93	93.7	2	1	199	34	9	11	1	257	274.6	0	0	0	0	0	0	0	0	0
11:00	1	0	22	3	2	0	0	28	28.2	1	2	41	10	5	0	0	59	59.5	0	0	0	0	0	0	0	0	0
11:15	0	0	12	4	0	0	0	16	16	0	0	41	8	0	1	0	50	51.3	0	0	0	0	0	0	0	0	0
11:30	0	0	24	4	0	0	0	28	28	1	0	62	8	0	1	1	73	74.5	0	0	0	0	0	0	0	0	0
11:45	0	0	21	4	0	0	0	25	25	0	0	57	2	7	3	0	69	76.4	0	0	0	0	0	0	0	0	0
H/TOT	1	0	79	15	2	0	0	97	97.2	2	2	201	28	12	5	1	251	261.7	0	0	0	0	0	0	0	0	0
12:00	2	0	23	1	0	0	0	26	24.4	0	0	50	8	3	2	0	63	67.1	0	0	0	0	0	0	0	0	0
12:15	1	0	20	2	2	0	0	25	25.2	0	0	40	5	2	1	0	48	50.3	0	0	0	0	0	0	0	0	0
12:30	0	0	26	3	1	0	0	30	30.5	0	0	52	10	0	2	0	64	66.6	0	0	0	0	0	0	0	0	0
12:45	0	0	24	3	0	0	0	27	27	0	0	49	6	2	1	0	58	60.3	0	0	0	0	0	0	0	0	0
H/TOT	3	0	93	9	3	0	0	108	107.1	0	0	191	29	7	6	0	233	244.3	0	0	0	0	0	0	0	0	0
13:00	0	0	25	4	0	0	0	29	29	0	0	61	3	0	0	1	65	66	0	0	0	0	0	0	0	0	0
13:15	0	0	30	4	0	0	0	34	34	0	1	50	5	1	1	0	58	59.2	0	0	0	0	0	0	0	0	0
13:30	0	0	22	5	1	0	0	28	28.5	2	2	60	3	3	4	0	74	77.9	0	0	0	0	0	0	0	0	0
13:45	0	0	30	1	0	0	0	31	31	0	1	55	9	2	1	0	68	69.7	0	0	0	0	0	0	0	0	0
H/TOT	0	0	107	14	1	0	0	122	122.5	2	4	226	20	6	6	1	265	272.8	0	0	0	0	0	0	0	0	0
14:00	0	1	34	4	0	0	0	39	38.4	0	1	46	1	5	1	1	55	59.2	0	0	0	0	0	0	0	0	0
14:15	0	1	32	1	0	0	2	36	37.4	2	0	52	10	2	1	0	67	67.7	0	0	0	0	0	0	0	0	0
14:30	1	0	32	5	0	0	0	38	37.2	0	0	81	16	2	1	0	100	102.3	0	0	0	0	0	0	0	0	0
14:45	1	0	34	5	0	0	1	41	41.2	1	0	62	9	2	2	2	78	82.8	0	0	0	0	0	0	0	0	0
H/TOT	2	2	132	15	0	0	3	154	154.2	3	1	241	36	11	5	3	300	312	0	0	0	0	0	0	0	0	0
15:00	0	0	45	7	0	1	0	53	54.3	0	0	63	10	4	2	0	79	83.6	0	0	0	0	0	0	0	0	0
15:15	1	0	40	8	1	0	0	50	49.7	1	0	69	7	3	3	0	83	87.6	0	0	0	0	0	0	0	0	0
15:30	0	0	39	3	1	0	0	43	43.5	0	1	84	16	5	2	0	108	112.5	0	0	0	0	0	0	0	0	0
15:45	1	1	46	3	0	0	0	51	49.6	0	0	72	17	2	0	0	91	92	0	0	0	0	0	0	0	0	0
H/TOT	2	1	170	21	2	1	0	197	197.1	1	1	288	50	14	7	0	361	375.7	0	0	0	0	0	0	0	0	0
16:00	1	0	51	5	0	0	0	57	56.2	0	0	84	15	3	0	0	102	103.5	0	0	0	0	0	0	0	0	0
16:15	0	0	44	6	0	0	1	51	52	0	1	83	27	4	1	1	117	120.7	0	0	0	0	0	0	0	0	0
16:30	1	0	41	8	0	0	0	50	49.2	0	1	90	13	0	1	0	105	105.7	0	0	0	0	0	0	0	0	0
16:45	1	1	29	3	0	0	0	34	32.6	0	0	58	12	1	0	0	71	71.5	0	0	0	0	0	0	0	0	0
H/TOT	3	1	165	22	0	0	1	192	190	0	2	315	67	8	2	1	395	401.4	0	0	0	0	0	0	0	0	0
17:00	0	1	39	5	2	0	0	47	47.4	0	0	64	22	1	0	1	88	89.5	0	0	0	0	0	0	0	0	0
17:15	2	0	45	2	0	0	0	49	47.4	0	0	47	9	2	0	0	58	59	0	0	0	0	0	0	0	0	0
17:30	2	0	43	2	1	0	0	48	46.9	3	0	78	4	0	0	0	85	82.6	0	0	0	0	0	0	0	0	0
17:45	1	0	37	1	0	0	0	39	38.2	2	0	58	7	0	0	0	67	65.4	0	0	0	0	0	0	0	0	0
H/TOT	5	1	164	10	3	0	0	183	179.9	5	0	247	42	3	0	1	298	296.5	0	0	0	0	0	0	0	0	0
18:00	1	1	36	2	0	0	0	40	38.6	0	0	77	11	0	0	0	88	88	0	0	0	0	0	0	0	0	0
18:15	1	0	48	1	0	0	0	50	49.2	0	1	56	3	0	0	1	61	61.4	0	0	0	0	0	0	0	0	0
18:30	0	0	38	1	0	0	0	39	39	1	0	73	6	0	0	0	80	79.2	0	0	0	0	0	0	0	0	0
18:45	1	0	33	0	0	0	0	34	33.2	0	0	50	4	0	0	0	54	54	0	0	0	0	0	0	0	0	0
H/TOT	3	1	155	4	0	0	0	163	160	1	1	256	24	0	0	1	283	282.6	0	0	0	0	0	0	0	0	0
12 TOT	22	8	1582	155	18	2	7	1794	1790	29	23	3294	390	86	58	14	3894	3989	0	0	0	0	0	0	0	0	0

Appendix 3- TRICS Output Files

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

Estimated TRIP rate value per 172 DWELLS shown in shaded columns

BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	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	93	126	0.068	11.782	93	126	0.278	47.790	93	126	0.346	59.572
08:00 - 09:00	93	126	0.138	23.785	**93**	**126**	**0.361**	**62.017**	93	126	0.499	85.802
09:00 - 10:00	93	126	0.142	24.462	93	126	0.175	30.029	93	126	0.317	54.491
10:00 - 11:00	93	126	0.117	20.132	93	126	0.142	24.403	93	126	0.259	44.535
11:00 - 12:00	93	126	0.129	22.150	93	126	0.143	24.639	93	126	0.272	46.789
12:00 - 13:00	93	126	0.151	25.949	93	126	0.149	25.640	93	126	0.300	51.589
13:00 - 14:00	93	126	0.157	26.921	93	126	0.150	25.846	93	126	0.307	52.767
14:00 - 15:00	93	126	0.173	29.808	93	126	0.183	31.546	93	126	0.356	61.354
15:00 - 16:00	93	126	0.242	41.663	93	126	0.170	29.160	93	126	0.412	70.823
16:00 - 17:00	93	126	0.268	46.141	93	126	0.158	27.231	93	126	0.426	73.372
17:00 - 18:00	**93**	**126**	**0.340**	**58.541**	93	126	0.165	28.394	**93**	**126**	**0.505**	**86.935**
18:00 - 19:00	93	126	0.272	46.744	93	126	0.167	28.689	93	126	0.439	75.433
19:00 - 20:00	1	97	0.062	10.639	1	97	0.052	8.866	1	97	0.114	19.505
20:00 - 21:00	1	97	0.031	5.320	1	97	0.021	3.546	1	97	0.052	8.866
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.290	394.037			2.314	397.796			4.604	791.833

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	21 - 1882 (units:)
Survey date date range:	01/01/13 - 20/10/20
Number of weekdays (Monday-Friday):	93
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	15
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/K - MIXED PRIV HOUS (FLATS AND HOUSES)

VEHICLES

Calculation factor: 1 TOTBED

Estimated TRIP rate value per 474 TOTBED shown in shaded columns

BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. TOTBED	Trip Rate	Estimated Trip Rate	No. Days	Ave. TOTBED	Trip Rate	Estimated Trip Rate	No. Days	Ave. TOTBED	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	23	163	0.022	10.474	23	163	0.082	38.869	23	163	0.104	49.343
08:00 - 09:00	23	163	0.040	18.804	**23**	**163**	**0.118**	**55.906**	**23**	**163**	**0.158**	**74.710**
09:00 - 10:00	23	163	0.047	22.085	23	163	0.060	28.268	23	163	0.107	50.353
10:00 - 11:00	23	163	0.044	20.949	23	163	0.057	27.133	23	163	0.101	48.082
11:00 - 12:00	23	163	0.047	22.337	23	163	0.048	22.589	23	163	0.095	44.926
12:00 - 13:00	23	163	0.058	27.637	23	163	0.054	25.618	23	163	0.112	53.255
13:00 - 14:00	23	163	0.062	29.530	23	163	0.058	27.637	23	163	0.120	57.167
14:00 - 15:00	23	163	0.050	23.473	23	163	0.061	29.026	23	163	0.111	52.499
15:00 - 16:00	23	163	0.069	32.559	23	163	0.048	22.716	23	163	0.117	55.275
16:00 - 17:00	23	163	0.076	36.219	23	163	0.057	27.006	23	163	0.133	63.225
17:00 - 18:00	**23**	**163**	**0.103**	**48.586**	23	163	0.055	26.123	23	163	0.158	74.709
18:00 - 19:00	23	163	0.085	40.131	23	163	0.055	25.871	23	163	0.140	66.002
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.703	332.784			0.753	356.762			1.456	689.546

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	26 - 388 (units:)
Survey date date range:	01/01/11 - 11/07/18
Number of weekdays (Monday-Friday):	23
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 05 - HEALTH/G - GP SURGERIES
VEHICLES
Calculation factor: 100 sqm
Estimated TRIP rate value per 94 SQM shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	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	30	671	0.820	0.771	30	671	0.214	0.201	30	671	1.034	0.972
08:00 - 09:00	32	656	3.062	2.878	32	656	1.533	1.441	32	656	4.595	4.319
09:00 - 10:00	32	656	3.719	3.496	32	656	3.067	2.883	32	656	6.786	6.379
10:00 - 11:00	**32**	**656**	**3.734**	**3.510**	**32**	**656**	**3.805**	**3.577**	**32**	**656**	**7.539**	**7.087**
11:00 - 12:00	32	656	3.057	2.874	32	656	3.424	3.219	32	656	6.481	6.093
12:00 - 13:00	32	656	2.367	2.225	32	656	3.019	2.838	32	656	5.386	5.063
13:00 - 14:00	32	656	1.857	1.746	32	656	1.834	1.723	32	656	3.691	3.469
14:00 - 15:00	32	656	3.300	3.102	32	656	2.776	2.610	32	656	6.076	5.712
15:00 - 16:00	32	656	3.091	2.905	32	656	3.138	2.950	32	656	6.229	5.855
16:00 - 17:00	32	656	2.538	2.386	32	656	2.943	2.767	32	656	5.481	5.153
17:00 - 18:00	32	656	1.257	1.182	32	656	2.129	2.001	32	656	3.386	3.183
18:00 - 19:00	30	669	0.264	0.248	30	669	1.021	0.960	30	669	1.285	1.208
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			29.066	27.323			28.903	27.170			57.969	54.493

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	200 - 1592 (units: sqm)
Survey date date range:	01/01/11 - 15/10/18
Number of weekdays (Monday-Friday):	32
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES

Calculation factor: 100 sqm

Estimated TRIP rate value per 443.8 SQM shown in shaded columns

BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	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	1	540	1.296	5.753	1	540	1.296	5.753	1	540	2.592	11.506
07:00 - 08:00	19	782	4.043	17.941	19	782	3.625	16.090	19	782	7.668	34.031
08:00 - 09:00	19	782	4.661	20.687	19	782	4.318	19.165	19	782	8.979	39.852
09:00 - 10:00	19	782	5.912	26.239	19	782	5.105	22.657	19	782	11.017	48.896
10:00 - 11:00	19	782	5.798	25.732	19	782	5.321	23.612	19	782	11.119	49.344
11:00 - 12:00	19	782	6.141	27.254	19	782	6.316	28.030	19	782	12.457	55.284
12:00 - 13:00	**19**	**782**	**7.796**	**34.598**	**19**	**782**	**7.433**	**32.986**	**19**	**782**	**15.229**	**67.584**
13:00 - 14:00	19	782	6.847	30.389	19	782	6.861	30.448	19	782	13.708	60.837
14:00 - 15:00	19	782	6.303	27.971	19	782	6.599	29.284	19	782	12.902	57.255
15:00 - 16:00	19	782	6.081	26.986	19	782	6.249	27.732	19	782	12.330	54.718
16:00 - 17:00	19	782	6.915	30.687	19	782	6.531	28.986	19	782	13.446	59.673
17:00 - 18:00	19	782	6.874	30.508	19	782	7.345	32.598	19	782	14.219	63.106
18:00 - 19:00	19	782	6.679	29.642	19	782	6.989	31.016	19	782	13.668	60.658
19:00 - 20:00	17	838	6.158	27.329	17	838	6.249	27.734	17	838	12.407	55.063
20:00 - 21:00	17	838	4.796	21.283	17	838	5.238	23.246	17	838	10.034	44.529
21:00 - 22:00	15	870	3.680	16.331	15	870	4.132	18.339	15	870	7.812	34.670
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			89.980	399.330			89.607	397.676			179.587	797.006

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Parameter summary

Trip rate parameter range selected:	260 - 1840 (units: sqm)
Survey date date range:	01/01/11 - 01/05/19
Number of weekdays (Monday-Friday):	19
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix 4- Sample Modelling Output File

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Site 1 - Station road_R124.j9
Path: O:\21 Projects\21205 - Portmarnock Phase 1D\00.WIP\Model\Traffic\TRL\Site 1
Report generation date: 20/04/2021 11:08:01

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Base Year 2021 - 2021 Base															
Stream B-AC	5.0	26.8	61.85	0.85	F	16.99	C	-10 % [Stream B-AC]	27.5	61.6	235.49	1.10	F	69.02	F	-24 % [Stream B-AC]
Stream C-AB	1.8	8.7	12.17	0.54	B				2.0	10.1	11.69	0.56	B			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Opening Year 2023 - 2023 DN															
Stream B-AC	14.8	47.4	149.09	1.01	F	39.72	E	-20 % [Stream B-AC]	52.8	88.8	455.57	1.25	F	133.44	F	-30 % [Stream B-AC]
Stream C-AB	2.1	10.4	13.50	0.58	B				2.8	13.9	14.21	0.64	B			
	Opening Year 2023 - 2023 DS															
Stream B-AC	10.4	41.4	113.33	0.96	F	30.14	D	-17 % [Stream B-AC]	45.8	80.8	381.26	1.21	F	111.33	F	-29 % [Stream B-AC]
Stream C-AB	2.0	10.0	13.16	0.57	B				2.6	12.8	13.45	0.62	B			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Opening Year 2038 - 2038 DN															
Stream B-AC	56.5	91.8	523.90	1.30	F	132.55	F	-31 % [Stream B-AC]	134.0	208.7	1231.06	1.62	F	357.24	F	-40 % [Stream B-AC]
Stream C-AB	4.5	24.3	22.11	0.75	C				6.4	34.8	26.36	0.81	D			
	Opening Year 2038 - 2038 DS															
Stream B-AC	46.8	80.3	418.00	1.25	F	104.15	F	-29 % [Stream B-AC]	121.9	187.5	1126.62	1.57	F	324.82	F	-39 % [Stream B-AC]
Stream C-AB	4.2	23.0	21.14	0.74	C				5.6	30.6	23.24	0.78	C			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Stress Test 2038 - Stress Test 2038 DS															
Stream B-AC	62.3	101.7	587.25	1.34	F	150.16	F	-32 % [Stream B-AC]	139.8	220.0	1282.14	1.65	F	372.78	F	-40 % [Stream B-AC]
Stream C-AB	4.6	24.8	22.49	0.75	C				6.8	36.9	28.10	0.82	D			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

Junctions 9

ARCADY 9 - Roundabout Module

Filename: Site 2 - R106 Strand Road Roundabout.j9
Path: O:\21 Projects\21205 - Portmarnock Phase 1D\00.WIP\Model\Traffic\TRL\Site 2
Report generation date: 09/04/2021 12:08:06

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Baseline 2021 - 2021															
Arm 1	2.1	4.6	10.37	0.66	B	17.57	C	2 % [Arm 3]	0.9	1.9	5.40	0.48	A	13.74	B	12 % [Arm 3]
Arm 2	0.9	3.1	8.40	0.45	A				3.2	15.8	18.02	0.77	C			
Arm 3	5.4	28.7	30.92	0.84	D				2.4	10.9	18.54	0.71	C			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	01/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JBBARRY\TransportPC
Description	

Junctions 9

OSCADY 9 - Signalised Intersection Module

Filename: Site 2 - R106 Strand Road Signalised.j9
Path: O:\21 Projects\21205 - Portmarnock Phase 1D\00.WIP\Model\Traffic\TRL\Site 2
Report generation date: 20/04/2021 08:54:48

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Opening Year - 2023 - 2023 DN															
Arm A	10.3	?	25.74	0.79	C	30.30	C	-14 % [Arm B - Traffic Stream 1]	5.5	?	13.86	0.53	B	22.34	C	-3 % [Arm B - Traffic Stream 1]
Arm B	15.7	?	42.66	0.88	D				11.5	?	33.03	0.76	C			
Arm C	4.8	?	14.90	0.44	B				7.9	?	18.71	0.71	B			
	Opening Year - 2023 - 2023 DS															
Arm A	9.3	?	23.34	0.76	C	27.95	C	-10 % [Arm B - Traffic Stream 1]	5.1	?	12.33	0.49	B	21.90	C	-8 % [Arm B - Traffic Stream 1]
Arm B	14.5	?	39.37	0.87	D				11.9	?	35.43	0.78	D			
Arm C	4.5	?	14.18	0.44	B				7.3	?	16.34	0.67	B			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Design Year - 2038 - 2038 DN															
Arm A	53.5	?	141.44	1.02	F	123.86	F	-100 % [Arm B - Traffic Stream 1]	18.5	?	53.04	0.81	D	55.07	E	-100 % [Arm B - Traffic Stream 1]
Arm B	65.1	?	156.66	1.06	F				32.1	?	86.45	0.94	F			
Arm C	13.1	?	28.26	0.44	C				15.6	?	27.19	0.73	C			
	Design Year - 2038 - 2038 DS															
Arm A	50.6	?	139.33	1.02	F	114.96	F	-100 % [Arm B - Traffic Stream 1]	17.7	?	52.40	0.80	D	52.56	D	-100 % [Arm B - Traffic Stream 1]
Arm B	57.3	?	136.90	1.03	F				29.5	?	80.10	0.92	F			
Arm C	12.8	?	28.68	0.45	C				15.1	?	26.94	0.72	C			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	DOS	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Stress Test - 2038 - Stress Test 2038 DS															
Arm A	54.1	?	145.47	1.03	F	119.03	F	-100 % [Arm B - Traffic Stream 1]	18.0	?	52.65	0.80	D	55.47	E	-100 % [Arm B - Traffic Stream 1]
Arm B	59.2	?	140.30	1.03	F				32.2	?	88.82	0.95	F			
Arm C	13.3	?	29.34	0.44	C				15.1	?	26.34	0.72	C			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Site 3_R123 Moyne Road_R106 Coast road.j9
Path: O:\21 Projects\21205 - Portmarnock Phase 1D\00.WIP\Model\Traffic\TRL\Site 3
Report generation date: 20/04/2021 09:20:28

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Baseline 2021 - 2021															
Stream B-AC	2.0	9.6	29.76	0.67	D	6.83	A	3 % [Stream B-AC]	1.5	6.9	24.89	0.59	C	4.86	A	9 % [Stream B-AC]
Stream C-AB	2.5	13.3	8.86	0.59	A				1.1	4.7	8.00	0.38	A			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Opening Year 2023 - 2023 DN															
Stream B-AC	2.8	15.1	42.60	0.74	E	9.72	A	-3 % [Stream B-AC]	2.0	9.8	30.94	0.66	D	5.83	A	3 % [Stream B-AC]
Stream C-AB	3.9	20.8	11.86	0.67	B				1.3	6.2	8.49	0.42	A			
	Opening Year 2023 - 2023 DS															
Stream B-AC	5.0	26.2	65.35	0.85	F	13.96	B	-9 % [Stream B-AC]	2.5	12.7	36.05	0.71	E	7.04	A	-1 % [Stream B-AC]
Stream C-AB	3.5	18.8	11.30	0.65	B				1.4	6.9	8.95	0.44	A			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Design Year 2038 - 2038 DN															
Stream B-AC	17.6	46.1	207.55	1.08	F	50.17	F	-17 % [Stream B-AC]	6.8	31.5	94.37	0.90	F	15.48	C	-12 % [Stream B-AC]
Stream C-AB	19.4	69.9	53.26	0.95	F				2.4	12.4	10.92	0.56	B			
	Design Year 2038 - 2038 DS															
Stream B-AC	32.0	62.1	324.79	1.19	F	66.55	F	-21 % [Stream B-AC]	10.0	38.4	125.52	0.96	F	21.17	C	-14 % [Stream B-AC]
Stream C-AB	14.6	61.8	40.30	0.91	E				2.6	13.6	11.73	0.58	B			

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Stress Test 2038 - Stress Test 2038 DS															
Stream B-AC	59.8	92.7	572.32	1.41	F	122.27	F	-27 % [Stream B-AC]	21.8	51.9	230.35	1.09	F	39.40	E	-19 % [Stream B-AC]
Stream C-AB	20.4	71.4	57.98	0.96	F				3.2	17.3	13.81	0.64	B			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

Junctions 9

PICADY 9 - Priority Intersection Module

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: Site 4.j9
Path: O:\21 Projects\21205 - Portmarnock Phase 1D\00.WIP\Model\Traffic\TRL\Site 4
Report generation date: 09/04/2021 12:54:14

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Base 2021 - 2021															
Stream B-AC	5.9	29.9	72.19	0.89	F	15.94	C	-12 % [Stream B-AC]	3.3	17.8	42.83	0.79	E	9.24	A	-4 % [Stream B-AC]
Stream C-AB	0.2	1.1	4.71	0.09	A				0.2	1.1	5.81	0.09	A			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	09/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JBBARRY\TransportPC
Description	

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Site 5.j9
Path: O:\21 Projects\21205 - Portmarnock Phase 1D\00.WIP\Model\Traffic\TRL\Site 5
Report generation date: 09/04/2021 14:20:05

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Baseline 2021 - 2021															
Stream B-AC	4.0	21.6	52.88	0.82	F	10.81	B	-7 % [Stream B-AC]	5.1	27.8	54.04	0.86	F	13.36	B	-8 % [Stream B-AC]
Stream C-AB	1.6	8.3	8.47	0.49	A				0.0	~1	0.00	0.00	A			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	
Location	
Site number	
Date	09/04/2021
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JBBARRY\TransportPC
Description	

T R A N S P O R T   R E S E A R C H   L A B O R A T O R Y

OPTIMISED SIGNAL CAPACITY AND DELAY

Visual OSCADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (MAR 1999)

```
 ------------------------------------------------
|   FOR SALES AND DISTRIBUTION INFORMATION,      |
|   PROGRAM ADVICE AND MAINTENANCE CONTACT:      |
|                  TRL LTD                       |
| TEL: CROWTHORNE (01344) 770018, FAX: 770864    |
|                                                |
 ------------------------------------------------
```

```
*************************************************************************************************
          THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS IN
          NO WAY  RELIEVED OF HIS RESPONSIBILITY FOR   THE CORRECTNESS  OF THE SOLUTION
*************************************************************************************************
```

.Run with file:- "e:\Portmarnock Modelling\Phase 1D\H - 2023 AM DN (No Dev).voi" at 16:44:44 on Thursday, 27 February 2098

RUN TITLE
****
Phase 1D 2021

**** ERROR AND WARNING MESSAGES ****
====================================

No errors or warnings in the data.

.TRAFFIC SIGNAL JUNCTION ANALYSIS
****

INPUT DATA

```
                                  ARM D
                                    I
                                    I
                                    I
                                    I
                                    I
                                    I
                                       TO A ----->
 ARM C--------------------       CROSS        -------------------- ARM A
                                       <----- FROM A
                                    I
                                    I
                                    I
                                    I
                                    I
                                    I
                                  ARM B
```

ARM A IS Arm A - Moyne Road East
ARM B IS Arm B - Hole in the Wall Rd
ARM C IS Arm C - Moyne Road West
ARM D IS Arm D - Drumnigh Rd

.GEOMETRIC DATA

DATA ITEM		ARM A	ARM B	ARM C	ARM D
GRADIENT		0.0 %	0.0 %	0.0 %	0.0 %
NUMBER OF LANES		2	2	2	2
PERMITTED MOVEMENTS	LANE 1	LS	LS	LS	LS
	LANE 2	R	R	R	R
TOTAL EXIT WIDTH FOR STRAIGHT-AHEAD VEHICLES FROM THIS ARM		N/A	N/A	N/A	N/A
LANE WIDTHS	LANE 1	3.65 M	3.65 M	3.65 M	3.65 M
	LANE 2	3.50 M	3.50 M	3.50 M	3.50 M
LEFT TURN RADII	LANE 1	15.0 M	15.0 M	15.0 M	15.0 M
RIGHT TURN RADII	LANE 2	20.0 M	20.0 M	20.0 M	20.0 M
OPPOSING TRAFFIC MOVEMENTS FROM OPPOSITE ARM		STRAIGHT LEFT	STRAIGHT LEFT	STRAIGHT LEFT	STRAIGHT LEFT
STORAGE BEYOND STOPLINE	LANE 2	3.0 VEHS	3.0 VEHS	3.0 VEHS	3.0 VEHS

.TRAFFIC DEMAND DATA

DEMAND PROFILES ARE SYNTHESISED USING THE ** ODTAB ** OPTION

DEMAND DATA SUPPLIED BETWEEN TIMES - 07.45 TO 09.15
PERIOD OF INTEREST (FOR QUEUE AND DELAY CALCULATIONS) - 08.00 TO 09.00

THE FOLLOWING DATA HAS BEEN INPUT

TRAFFIC SCALING FACTOR HAS BEEN SET TO 100 %

TOTAL TRAFFIC DEMAND (VEHICLES / HOUR)				
FROM/TO	ARM A	ARM B	ARM C	ARM D
ARM A	0.0	107.0	321.0	34.0
ARM B	77.0	0.0	104.0	98.0
ARM C	200.0	173.0	0.0	255.0
ARM D	6.0	233.0	78.0	0.0

TIME PERIOD	ARM	VEHICLE TYPE PROPORTIONS					
		CARS AND LIGHT GOODS	MEDIUM GOODS	HEAVY GOODS	BUSES AND COACHES	MOTOR CYCLES	PEDAL CYCLES
08.00-09.00	A	1.000	0.000	0.000	0.000	0.000	0.000
	B	1.000	0.000	0.000	0.000	0.000	0.000
	C	1.000	0.000	0.000	0.000	0.000	0.000
	D	1.000	0.000	0.000	0.000	0.000	0.000

.DATA DETERMINED FOR USE IN SYNTHESIS OF DEMAND PROFILES ARE AS FOLLOWS-

ENTRY/EXIT FLOWS	ARM	TIME WHEN FLOW STARTS TO RISE	TIME WHEN TOP OF PEAK IS REACHED	TIME WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ENTRY	A	08.00	08.30	09.00	5.78	8.66	5.78
	B	08.00	08.30	09.00	3.49	5.23	3.49
	C	08.00	08.30	09.00	7.85	11.77	7.85
	D	08.00	08.30	09.00	3.96	5.94	3.96

.SIGNAL TIMING DETAILS FOR SIGNAL SET 1

TIMING OPTION- VEHICLE ACTUATED MODE

MAXIMUM CYCLE TIME- 120.0 SECONDS

GLOBAL EFFECTIVE GREEN DISPLACEMENTS - START = 1.4
END = 2.9

DATA ITEM	STAGE 1	STAGE 2	STAGE 3
LANES ON GREEN: ARM A		1 2	
B	1 2		
C		1 2	
D	1 2		
MINIMUM GREEN TIME (SECS)	5.0	5.0	12.0
PRECEDING INTERSTAGE	5.0	5.0	5.0

.DEMAND AND CAPACITY INFORMATION FOR EACH 15 MINUTE TIME SEGMENT BETWEEN 08.00 AND 09.00

TIME ARM	LANES	MOVEMENT	DEMAND (VEHS/MIN)	SAT FLOW (PCU/HR)	SAT FLOW (VEHS/MIN)	EFFECTIVE GREEN-TIME TRUE (SECS)	FLARE+NOTIONL (SECS)	CAPACITY (VEHS /MIN)
08.00-08.15								
A	1	L S	6.39	1931.7	32.20	26.5		13.40
	2	R	0.51	814.0	13.57	26.5		5.65
B	1	L S	3.02	1883.1	31.38	13.1		6.48
	2	R	1.15	1296.2	21.60	13.1		4.46
C	1	L S	6.79	1874.9	31.25	26.5		13.00
	2	R	2.58	876.2	14.60	26.5		6.08
D	1	L S	3.57	1975.0	32.92	13.1		6.80
	2	R	1.16	1367.8	22.80	13.1		4.71
08.15-08.30								
A	1	L S	7.82	1931.7	32.20	33.2		14.56
	2	R	0.62	642.3	10.71	33.2		4.84
B	1	L S	3.69	1883.1	31.38	16.2		6.93

	2	R	1.41	1040.9	17.35	16.2	3.83
C	1	L S	8.32	1874.9	31.25	33.2	14.13
	2	R	3.16	698.4	11.64	33.2	5.26
D	1	L S	4.37	1975.0	32.92	16.2	7.27
	2	R	1.43	1104.8	18.41	16.2	4.07
08.30-08.45							
A	1	L S	7.82	1931.7	32.20	33.2	14.56
	2	R	0.62	642.3	10.71	33.2	4.84
B	1	L S	3.69	1883.1	31.38	16.2	6.93
	2	R	1.41	1040.9	17.35	16.2	3.83
C	1	L S	8.32	1874.9	31.25	33.2	14.13
	2	R	3.16	698.4	11.64	33.2	5.26
D	1	L S	4.37	1975.0	32.92	16.2	7.27
	2	R	1.43	1104.8	18.41	16.2	4.07
08.45-09.00							
A	1	L S	6.39	1931.7	32.20	26.5	13.40
	2	R	0.51	814.0	13.57	26.5	5.65
B	1	L S	3.02	1883.1	31.38	13.1	6.48
	2	R	1.15	1296.2	21.60	13.1	4.46
C	1	L S	6.79	1874.9	31.25	26.5	13.00
	2	R	2.58	876.2	14.60	26.5	6.08
D	1	L S	3.57	1975.0	32.92	13.1	6.80
	2	R	1.16	1367.8	22.80	13.1	4.71

.QUEUE AND DELAY INFORMATION FOR EACH 15 MINUTE TIME SEGMENT BETWEEN 08.00 AND 09.00

TIME ARM	LANES	MOVEMENT	DEMAND EXCL 2-WHEEL (VEHS/MIN)	CAPACITY (VEHS/MIN)	DEGREE OF SAT (RFC)	QUEUE AT END OF SEGMENT MEAN (PHASE AVERAGED) (VEHS/LANE)	MAXIMUM (END OF RED) (VEHS/LANE)	QUEUEING DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15									
A	1	L S	6.39	13.40	0.477	1.7	4.2	25.5	
	2	R	0.51	5.65	0.090	0.1	0.3	1.5	
B	1	L S	3.02	6.48	0.465	1.4	2.8	20.2	
	2	R	1.15	4.46	0.258	0.5	1.0	6.9	
C	1	L S	6.79	13.00	0.522	1.9	4.5	28.6	
	2	R	2.58	6.08	0.425	0.8	1.8	11.3	
D	1	L S	3.57	6.80	0.525	1.7	3.3	25.0	
	2	R	1.16	4.71	0.247	0.5	1.0	6.9	
08.15-08.30									
A	1	L S	7.82	14.56	0.538	2.3	5.6	34.1	
	2	R	0.62	4.84	0.128	0.1	0.4	2.0	
B	1	L S	3.69	6.93	0.533	1.9	3.9	28.7	
	2	R	1.41	3.83	0.367	0.7	1.5	10.4	
C	1	L S	8.32	14.13	0.589	2.6	6.1	38.7	
	2	R	3.16	5.26	0.601	1.3	2.6	19.7	
D	1	L S	4.37	7.27	0.601	2.4	4.7	36.0	
	2	R	1.43	4.07	0.351	0.7	1.5	10.3	
08.30-08.45									
A	1	L S	7.82	14.56	0.538	2.3	5.6	34.1	
	2	R	0.62	4.84	0.128	0.1	0.4	2.0	
B	1	L S	3.69	6.93	0.533	1.9	3.9	28.8	
	2	R	1.41	3.83	0.367	0.7	1.5	10.5	
C	1	L S	8.32	14.13	0.589	2.6	6.1	38.8	
	2	R	3.16	5.26	0.601	1.3	2.7	20.1	
D	1	L S	4.37	7.27	0.601	2.4	4.7	36.2	
	2	R	1.43	4.07	0.351	0.7	1.5	10.3	
08.45-09.00									
A	1	L S	6.39	13.40	0.477	1.7	4.2	25.5	
	2	R	0.51	5.65	0.090	0.1	0.3	1.5	
B	1	L S	3.02	6.48	0.465	1.4	2.8	20.4	
	2	R	1.15	4.46	0.258	0.5	1.0	6.9	
C	1	L S	6.79	13.00	0.522	1.9	4.5	28.7	
	2	R	2.58	6.08	0.425	0.8	1.8	11.5	
D	1	L S	3.57	6.80	0.525	1.7	3.4	25.3	
	2	R	1.16	4.71	0.247	0.5	1.0	6.9	

.QUEUES FOR ARM A

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.1	0.3	
	1	1.7	4.2	**++
08.30	2	0.1	0.4	
	1	2.3	5.6	**++++
08.45	2	0.1	0.4	
	1	2.3	5.6	**++++
09.00	2	0.1	0.3	
	1	1.7	4.2	**++

.QUEUES FOR ARM B

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.5	1.0	+
	1	1.4	2.8	*++
08.30	2	0.7	1.5	*
	1	1.9	3.9	**++
08.45	2	0.7	1.5	*
	1	1.9	3.9	**++
09.00	2	0.5	1.0	+
	1	1.4	2.8	*++

.QUEUES FOR ARM C

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.8	1.8	*+
	1	1.9	4.5	**+++
08.30	2	1.3	2.6	*++
	1	2.6	6.1	***+++
08.45	2	1.3	2.7	*++
	1	2.6	6.1	***+++
09.00	2	0.8	1.8	*+
	1	1.9	4.5	**+++

.QUEUES FOR ARM D

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.5	1.0	+
	1	1.7	3.3	**+
08.30	2	0.7	1.5	*
	1	2.4	4.7	**+++
08.45	2	0.7	1.5	*
	1	2.4	4.7	**+++
09.00	2	0.5	1.0	+
	1	1.7	3.4	**+

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD (08.00-09.00)

STREAM	TOTAL DEMAND (EXCL 2-WHEEL)		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A-B	106.6	106.6	29.8	0.28	29.8	0.28
A-C	319.8	319.8	89.3	0.28	89.4	0.28
A-D	33.9	33.9	7.0	0.21	7.0	0.21
B-C	103.6	103.6	50.5	0.49	50.6	0.49
B-D	97.6	97.6	47.6	0.49	47.7	0.49
B-A	76.7	76.7	34.6	0.45	34.7	0.45
C-D	254.0	254.0	75.5	0.30	75.6	0.30
C-A	199.2	199.2	59.2	0.30	59.3	0.30
C-B	172.3	172.3	62.5	0.36	62.6	0.36
D-A	6.0	6.0	3.1	0.51	3.1	0.52
D-B	232.1	232.1	119.5	0.51	119.7	0.52
D-C	77.7	77.7	34.3	0.44	34.4	0.44
ALL	1679.6	1679.6	613.1	0.37	613.8	0.37

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

```
 * TOTAL GEOMETRIC DELAY INCLUDES DELAY SUFFERED BY VEHICLES STILL QUEUEING AT THE END OF THE WHOLE TIME PERIOD.
 * THE SUM OF DELAYS FOR EACH SEGMENT AND THE TOTAL GEOMETRIC DELAY WILL BE SIGNIFICANTLY DIFFERENT ONLY IF THERE IS
 * A LARGE QUEUE AT THE END OF THE TIME PERIOD.
.
 ****** OSCADY 4 run completed

============================================ end of file ==============================================
```

T R A N S P O R T   R E S E A R C H   L A B O R A T O R Y

OPTIMISED SIGNAL CAPACITY AND DELAY

Visual OSCADY 4 ANALYSIS PROGRAM
RELEASE 2.1 (MAR 1999)

FOR SALES AND DISTRIBUTION INFORMATION,
PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL LTD
TEL: CROWTHORNE (01344) 770018, FAX: 770864

****
THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION
****

.Run with file:- "e:\Portmarnock Modelling\Phase 1D\H - 2023 AM DS (With Dev).voi" at 20:57:41 on Friday, 28 February 2098

RUN TITLE
****
Phase 1D 2021

**** ERROR AND WARNING MESSAGES ****
===================================

No errors or warnings in the data.

.TRAFFIC SIGNAL JUNCTION ANALYSIS
****

INPUT DATA

```
                             ARM D
                               I
                               I
                               I
                               I
                               I
                               I
                                  TO A ----->
 ARM C--------------------      CROSS       -------------------- ARM A
                                  <----- FROM A
                               I
                               I
                               I
                               I
                               I
                               I
                             ARM B
```

ARM A IS Arm A - Moyne Road East
ARM B IS Arm B - Hole in the Wall Rd
ARM C IS Arm C - Moyne Road West
ARM D IS Arm D - Drumnigh Rd

.GEOMETRIC DATA

DATA ITEM		ARM A	ARM B	ARM C	ARM D
GRADIENT		0.0 %	0.0 %	0.0 %	0.0 %
NUMBER OF LANES		2	2	2	2
PERMITTED MOVEMENTS	LANE 1	LS	LS	LS	LS
	LANE 2	R	R	R	R
TOTAL EXIT WIDTH FOR STRAIGHT- AHEAD VEHICLES FROM THIS ARM		N/A	N/A	N/A	N/A
LANE WIDTHS	LANE 1	3.65 M	3.65 M	3.65 M	3.65 M
	LANE 2	3.50 M	3.50 M	3.50 M	3.50 M
LEFT TURN RADII	LANE 1	15.0 M	15.0 M	15.0 M	15.0 M
RIGHT TURN RADII	LANE 2	20.0 M	20.0 M	20.0 M	20.0 M
OPPOSING TRAFFIC MOVEMENTS FROM OPPOSITE ARM		STRAIGHT LEFT	STRAIGHT LEFT	STRAIGHT LEFT	STRAIGHT LEFT
STORAGE BEYOND STOPLINE	LANE 2	3.0 VEHS	3.0 VEHS	3.0 VEHS	3.0 VEHS

.TRAFFIC DEMAND DATA

DEMAND PROFILES ARE SYNTHESISED USING THE ** ODTAB ** OPTION

DEMAND DATA SUPPLIED BETWEEN TIMES - 07.45 TO 09.15
PERIOD OF INTEREST (FOR QUEUE AND DELAY CALCULATIONS) - 08.00 TO 09.00

THE FOLLOWING DATA HAS BEEN INPUT

TRAFFIC SCALING FACTOR HAS BEEN SET TO 100 %

TOTAL TRAFFIC DEMAND (VEHICLES / HOUR)

FROM/TO	ARM A	ARM B	ARM C	ARM D
ARM A	0.0	120.0	334.0	37.0
ARM B	85.0	0.0	104.0	94.0
ARM C	219.0	173.0	0.0	244.0
ARM D	6.0	221.0	74.0	0.0

TIME PERIOD	ARM	VEHICLE TYPE PROPORTIONS CARS AND LIGHT GOODS	MEDIUM GOODS	HEAVY GOODS	BUSES AND COACHES	MOTOR CYCLES	PEDAL CYCLES
08.00-09.00	A	1.000	0.000	0.000	0.000	0.000	0.000
	B	1.000	0.000	0.000	0.000	0.000	0.000
	C	1.000	0.000	0.000	0.000	0.000	0.000
	D	1.000	0.000	0.000	0.000	0.000	0.000

.DATA DETERMINED FOR USE IN SYNTHESIS OF DEMAND PROFILES ARE AS FOLLOWS-

ENTRY/EXIT FLOWS	ARM	TIME WHEN FLOW STARTS TO RISE	TIME WHEN TOP OF PEAK IS REACHED	TIME WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
ENTRY	A	08.00	08.30	09.00	6.14	9.21	6.14
	B	08.00	08.30	09.00	3.54	5.31	3.54
	C	08.00	08.30	09.00	7.95	11.92	7.95
	D	08.00	08.30	09.00	3.76	5.64	3.76

.SIGNAL TIMING DETAILS FOR SIGNAL SET 1

TIMING OPTION- VEHICLE ACTUATED MODE

MAXIMUM CYCLE TIME- 120.0 SECONDS

GLOBAL EFFECTIVE GREEN DISPLACEMENTS - START = 1.4
END = 2.9

DATA ITEM		STAGE 1	STAGE 2	STAGE 3
LANES ON GREEN: ARM	A		1 2	
	B	1 2		
	C		1 2	
	D	1 2		
MINIMUM GREEN TIME (SECS)		5.0	5.0	12.0
PRECEDING INTERSTAGE		5.0	5.0	5.0

.DEMAND AND CAPACITY INFORMATION FOR EACH 15 MINUTE TIME SEGMENT BETWEEN 08.00 AND 09.00

TIME ARM	LANES	MOVEMENT	DEMAND (VEHS/MIN)	SAT FLOW (PCU/HR)	SAT FLOW (VEHS/MIN)	EFFECTIVE GREEN-TIME TRUE (SECS)	FLARE+NOTIONL (SECS)	CAPACITY (VEHS /MIN)
08.00-08.15								
A	1	L S	6.78	1929.0	32.15	27.6		13.77
	2	R	0.55	804.1	13.40	27.6		5.74
B	1	L S	2.96	1881.2	31.35	12.8		6.25
	2	R	1.27	1327.3	22.12	12.8		4.41
C	1	L S	6.91	1880.9	31.35	27.6		13.42
	2	R	2.58	834.7	13.91	27.6		5.96
D	1	L S	3.39	1974.8	32.91	12.8		6.56
	2	R	1.10	1379.2	22.99	12.8		4.58
08.15-08.30								
A	1	L S	8.30	1929.0	32.15	34.9		14.99
	2	R	0.68	632.9	10.55	34.9		4.92
B	1	L S	3.62	1881.2	31.35	16.0		6.68

	2	R	1.55	1061.6	17.69	16.0	3.77
C	1	L S	8.46	1880.9	31.35	34.9	14.61
	2	R	3.16	660.5	11.01	34.9	5.13
D	1	L S	4.15	1974.8	32.91	16.0	7.02
	2	R	1.35	1108.1	18.47	16.0	3.94
08.30-08.45							
A	1	L S	8.30	1929.0	32.15	34.9	14.99
	2	R	0.68	632.9	10.55	34.9	4.92
B	1	L S	3.62	1881.2	31.35	16.0	6.68
	2	R	1.55	1061.6	17.69	16.0	3.77
C	1	L S	8.46	1880.9	31.35	34.9	14.61
	2	R	3.16	660.5	11.01	34.9	5.13
D	1	L S	4.15	1974.8	32.91	16.0	7.02
	2	R	1.35	1108.1	18.47	16.0	3.94
08.45-09.00							
A	1	L S	6.78	1929.0	32.15	27.6	13.77
	2	R	0.55	804.1	13.40	27.6	5.74
B	1	L S	2.96	1881.2	31.35	12.8	6.25
	2	R	1.27	1327.3	22.12	12.8	4.41
C	1	L S	6.91	1880.9	31.35	27.6	13.42
	2	R	2.58	834.7	13.91	27.6	5.96
D	1	L S	3.39	1974.8	32.91	12.8	6.56
	2	R	1.10	1379.2	22.99	12.8	4.58

.QUEUE AND DELAY INFORMATION FOR EACH 15 MINUTE TIME SEGMENT   BETWEEN 08.00 AND 09.00

TIME ARM	LANES	MOVEMENT	DEMAND EXCL 2-WHEEL (VEHS/MIN)	CAPACITY (VEHS/MIN)	DEGREE OF SAT (RFC)	QUEUE AT END OF SEGMENT MEAN (PHASE AVERAGED) (VEHS/LANE)	MAXIMUM (END OF RED) (VEHS/LANE)	QUEUEING DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)
08.00-08.15									
A	1	L S	6.78	13.77	0.492	1.8	4.4	26.8	
	2	R	0.55	5.74	0.096	0.1	0.3	1.6	
B	1	L S	2.96	6.25	0.473	1.4	2.8	20.5	
	2	R	1.27	4.41	0.288	0.5	1.2	8.0	
C	1	L S	6.91	13.42	0.515	1.9	4.6	28.2	
	2	R	2.58	5.96	0.434	0.8	1.8	11.3	
D	1	L S	3.39	6.56	0.517	1.6	3.2	24.3	
	2	R	1.10	4.58	0.241	0.4	1.0	6.7	
08.15-08.30									
A	1	L S	8.30	14.99	0.554	2.4	5.9	36.0	
	2	R	0.68	4.92	0.138	0.1	0.5	2.1	
B	1	L S	3.62	6.68	0.542	2.0	3.9	29.4	
	2	R	1.55	3.77	0.412	0.8	1.7	12.4	
C	1	L S	8.46	14.61	0.579	2.5	6.1	38.0	
	2	R	3.16	5.13	0.616	1.4	2.7	20.3	
D	1	L S	4.15	7.02	0.591	2.3	4.6	35.1	
	2	R	1.35	3.94	0.344	0.7	1.4	10.0	
08.30-08.45									
A	1	L S	8.30	14.99	0.554	2.4	5.9	36.0	
	2	R	0.68	4.92	0.138	0.1	0.5	2.1	
B	1	L S	3.62	6.68	0.542	2.0	3.9	29.4	
	2	R	1.55	3.77	0.412	0.8	1.7	12.5	
C	1	L S	8.46	14.61	0.579	2.5	6.1	38.1	
	2	R	3.16	5.13	0.616	1.4	2.7	20.7	
D	1	L S	4.15	7.02	0.591	2.3	4.6	35.2	
	2	R	1.35	3.94	0.344	0.7	1.4	10.1	
08.45-09.00									
A	1	L S	6.78	13.77	0.492	1.8	4.4	26.9	
	2	R	0.55	5.74	0.096	0.1	0.3	1.6	
B	1	L S	2.96	6.25	0.473	1.4	2.8	20.7	
	2	R	1.27	4.41	0.288	0.5	1.2	8.0	
C	1	L S	6.91	13.42	0.515	1.9	4.6	28.3	
	2	R	2.58	5.96	0.434	0.8	1.8	11.5	
D	1	L S	3.39	6.56	0.517	1.6	3.3	24.6	
	2	R	1.10	4.58	0.241	0.4	1.0	6.7	

.QUEUES FOR ARM A

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.1	0.3	
	1	1.8	4.4	**++
08.30	2	0.1	0.5	
	1	2.4	5.9	**++++
08.45	2	0.1	0.5	
	1	2.4	5.9	**++++
09.00	2	0.1	0.3	
	1	1.8	4.4	**++

.QUEUES FOR ARM B

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.5	1.2	*
	1	1.4	2.8	*++
08.30	2	0.8	1.7	*+
	1	2.0	3.9	**++
08.45	2	0.8	1.7	*+
	1	2.0	3.9	**++
09.00	2	0.5	1.2	*
	1	1.4	2.8	*++

.QUEUES FOR ARM C

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.8	1.8	*+
	1	1.9	4.6	**+++
08.30	2	1.4	2.7	*++
	1	2.5	6.1	***+++
08.45	2	1.4	2.7	*++
	1	2.5	6.1	***+++
09.00	2	0.8	1.8	*+
	1	1.9	4.6	**+++

.QUEUES FOR ARM D

TIME SEGMENT ENDING	LANE	NUMBER OF VEHICLES IN QUEUE MEAN (PHASE AVERAGED) *	MAXIMUM (AT END OF RED) +	
08.15	2	0.4	1.0	+
	1	1.6	3.2	**+
08.30	2	0.7	1.4	*
	1	2.3	4.6	**+++
08.45	2	0.7	1.4	*
	1	2.3	4.6	**+++
09.00	2	0.4	1.0	+
	1	1.6	3.3	**+

.QUEUEING DELAY INFORMATION OVER WHOLE PERIOD (08.00-09.00)

STREAM	TOTAL DEMAND (EXCL 2-WHEEL)		* QUEUEING * * DELAY *		* INCLUSIVE QUEUEING * * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A-B	119.5	119.5	33.2	0.28	33.3	0.28
A-C	332.7	332.7	92.5	0.28	92.6	0.28
A-D	36.9	36.9	7.5	0.20	7.5	0.20
B-C	103.6	103.6	52.6	0.51	52.7	0.51
B-D	93.6	93.6	47.5	0.51	47.6	0.51
B-A	84.7	84.7	40.9	0.48	40.9	0.48
C-D	243.1	243.1	69.9	0.29	69.9	0.29
C-A	218.2	218.2	62.7	0.29	62.8	0.29
C-B	172.3	172.3	63.7	0.37	63.8	0.37
D-A	6.0	6.0	3.1	0.53	3.2	0.53
D-B	220.2	220.2	115.9	0.53	116.1	0.53
D-C	73.7	73.7	33.5	0.45	33.5	0.45
ALL	1704.5	1704.5	623.1	0.37	623.8	0.37

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

* TOTAL GEOMETRIC DELAY INCLUDES DELAY SUFFERED BY VEHICLES STILL QUEUEING AT THE END OF THE WHOLE TIME PERIOD.
* THE SUM OF DELAYS FOR EACH SEGMENT AND THE TOTAL GEOMETRIC DELAY WILL BE SIGNIFICANTLY DIFFERENT ONLY IF THERE IS
* A LARGE QUEUE AT THE END OF THE TIME PERIOD.

.

****** OSCADY 4 run completed

== end of file ==